THE

AMERICAN GAS-LIGHT JOURNAL

The Representative of **LIGHT, WATER,** and the **PUBLIC HEALTH.**

JOHN B. MURRAY & CO., BANKERS, No. 40 WALL STREET, NEW YORK, PROPRIETORS.

"LET THERE BE LIGHT!"

No. 2. NEW YORK, MONDAY, AUGUST 1, 1859. $3 PER ANNUM. PUBLISHED MONTHLY.

NEW YORK GAS-LIGHT COMPANY.

This company was incorporated in 1823, being the third gas-light company organized in the United States; the first was that in Baltimore, in 1816, and the second in Boston, in 1822. Its capital was $750,000, with the right to increase it to $1,000,000, which it is now. The works of the company were built originally on Centre and Hester streets, and on Canal and Centre streets; but as the city closed in upon them with private dwellings and stores, they were removed, about the year 1850, to the two blocks of ground bounded by 21st and 22d streets from 1st avenue to the East River, on which are now four retort houses, containing 496 retorts, but which, when full, will have in operation 684 retorts. This Company uses iron retorts altogether.

There are six large telescopic gas-holders at the principal station, capable of containing together 1,500,000 cubic feet of gas. There are also two gas-holders in Park street, one in Roosevelt street, two in Church street, and one in New street, containing each 20,000 feet of gas, to equalize the supply in the entire district. There are three sets of transit mains, of sixteen, eighteen, and twenty inches diameter, extending from the works down 1st avenue to the city district. The length of pipe in use amounts to 130 miles, and of various sizes, from three to twenty inches diameter. This company's district is south of Grand street, extending from the East to the North River, comprising an area of 1,000 acres, being the same boundary as that of the old jail-limits prior to the repeal of the law of imprisonment for debt. It is a curious fact that the original survey and map made by Ald. Seaman City Surveyor, and then a director of the New York Gas-Light Company, by order of the Court, and which became useless on the repeal of the law above mentioned, was formerly in possession of the Company, and used by it as the diagram of its exact gas district, being also at that time the boundary of the fire limits. It was supposed then that nobody would ever see the back of the City Hall, which was for that reason built of brown stone. This old map has been since burnt in the partial destruction of the Gas Company's office. The original price of gas was $10 per 1,000 feet, which has been reduced, from time to time, to $2 50, the present price. Gas was made at first of oil, then of rosin, and now from imported Cannel and Newcastle coals.

Situated in the least desirable part of the city, below Grand street, where there are now but few places of public amusement, no large hotels, and almost no first-class dwelling-houses, and no commercial establishments that remain open at night, it is surprising that this company is able to yield so handsome a return to its shareholders; a fact that is due in a great measure to its able and practical management, and to its comparatively small capital.

This company lights 3,150 public lamps, and supplies 13,000 consumers. The superintendent and manager is Mr. John Mowton, who has filled that position with great credit and ability since 1831, having been the first manager of the Baltimore Gas-Works at its organization in 1816, of which he has promised us a history for a future number.

The first President of the N. Y. Gas-Light Company was Samuel Leggett, who was succeeded in 1827 by Mr. Fox, the present incumbent.

WM. W. FOX, Esq.,
President of the New York Gas-Light Company.

The personal histories of prominent men are always subjects of interest to the community at large, and especially to the young, who may emulate their examples. This is especially the case of those men who have been identified with great enterprises, or whose success in life has secured for them a marked celebrity.

William W. Fox, Esq., whose likeness is herewith presented to our readers, was born in the city of New York on the 26th day of September 1783, and is consequently now in his 76th year. He was educated as a merchant, and was engaged successfully in the dry goods business for 30 years. His memory is still unimpaired, and well stored with incidents of the early history of this city. Mr. Fox was one of the Commissioners appointed by the State Government to supply this city with water, and continued such until the Croton waterworks were completed. He was connected early with the cause of education, as one of the Trustees of the Public School Society, and was also one of the first Board of the House of Refuge, and also of the N. Y. Dispensary, and is now one of the State Commissioners on expenditure for public institutions.

Mr. Fox became President of the New York Gas-Light Company in July 1827, in which office he has continued until the present time. His long experience and practical knowledge of the business, acquired during the many years of his connection with it, has contributed greatly to its unexampled success.

Mr. Fox continues in full possession of his faculties, and retains his naturally active business habits, being at his office daily from 9 A.M. till 3 P.M., attending personally to the details of the business, assisted by his able Secretary, Mr. C. L. Everitt.

Mr. Fox is brother of Mr. Geo. Fox, the well-known President of the old City Fire Insurance Company, organized in 1833, and one of the most successful of our fire companies. Both of these gentlemen have always enjoyed the respect and confidence of this community, with which they have been so long identified.

OUR CONTRIBUTORS.

We have the pleasure to announce that the following scientific gentlemen will be regular contributors to the American Gas-Light Journal:

Professor W. E. A. Aikin, of the Maryland University, Baltimore.

Professor James R. Chilton, Analytical Chemist, New York city.

Dr. Chas. M. Cresson, Asst. Engineer, Gas-Works, Philadelphia.

Professor A. K. Eaton, Analytical and Cosulting Chemist, New York city.

Professor John Fraser, Prof. Natural Philosophy, do. do., Philadelphia.

Professor F. A. Genth, Analytical Chemist, Philadelphia.

Professor Wolcott Gibbs, Head of the Departments of Chemical and Physical Sciences of the Free Academy, New York city.

Professor A. A. Hayes, M.D., Consulting Chemist and Assayer to State of Massachusetts, Boston.

Professor James J. Mapes, late Prof. Chemistry in National Academy, Newark, N. J.

Professor James Renwick, Emeritus Professor Natural Philosophy and Chemistry, Columbia College.

Professor Robt. Rogers, Prof. Medical Department Pennsylvania University, Philadelphia.

Professor John Torrey, United States Assayer, and late Professor of Chemistry inthe College of Physicians and Surgeons, New York.

The Engineers and Chemists of the various Gas-Light and Water Companies, and officers of sanitary associations throughout the United States.

John H. Griscom, M.D., Attending Physician of the New York Hospital; Senior Vice President of the New York Sanitary Association, N.Y. city.

Edward Hartshorne, M.D., Philadelphia.

Isaac Hays, M.D., Editor *American Journal of Medical Sciences*, Philadelphia.

Carl Schultz, Assayer's Assistant, U. S. Assay Office, New York city.

We doubt if an equal array of scientific talent is to be found connected with any other publication in the United States, and it is an evidence of what the American Gas-Light Journal is destined to become as a standard authority on scientific subjects identified with the gas-light and water interests and with hygiene. Other names have been suggested to us, which, when the arrangements are completed, will swell the list of scientific contributors beyond even that which we now present.

TO GAS AND WATER CONSUMERS.

We have had enquiries from several quarters whether our columns will be open to communications and suggestions to the gas and water companies, from consumers and others. Undoubtedly they will. The very object of the American Gas-Light Journal is to be a medium of communication between the companies and between the companies and consumers.

CHARTERS.

We will thank all the gas-light and water companies to send us a copy of their charters. We wish to bind and preserve them for reference.

JOHN B. MURRAY & CO'S.

Price Current of the GAS-LIGHT SHARES of CITIES and TOWNS, Corrected July 30, 1859.

No.	Organized.	Towns.	State.	Capital.	Dollars each Share.	Semi-Ann'l Div.	Dividends payable.	Price per cent.	No.	Population of Gas District.	Private Consumers.	Public Lamps.	Price 1,000 feet.	REMARKS.
1	1857	ADRIAN	Mich.	50,000	50		May & Nov.	84	1	3,500	230	20	3 50	Earnings applied to extension.—S. B. Barker, Sec.
2	1857	AKRON	O.	10,000			Do.		2	3 500	120	22	3 00	*Please fill blanks.*
3	1845	ALBANY	N.Y.	250,000	20	4	Jan. & July	105	3	65,000	3,200	510	3 00	
4	1853	ALBION	N.Y.	30,000	100		Do.	90	4	3,000	116		3 80	
5	1851	ALEXANDRIA	Va.	106,000			City works.		5	9,000	780	105	3 50	
6		ALLEGHANY	Pa.	140,000	25	4	May & Nov.	104	6	25,000				*Please fill blanks.*
7	1853	ALLENTOWN	Pa.	40,000	100	3½	Do.	100	7	4,500	300	30	3 50	
8	1857	ALTON	Ill.	75,000			Private.		8	4,000	250	67	3 50	Geo. T. Brown, Owner.
9	1858	ANNAPOLIS	Md.	24,000	25		Jan. & July	95	9	4,000	109	70	4 00	A. Randall, Pres.
10	1858	ANN ARBOR	Mich.	23,000	50	5	Mar. & Sept.	95	10	5,500	180	25	4 00	Commenced lighting, Sept. 1858.
11		ASTORIA	N.Y.				Do.		1.					*Please fill blanks.*
12	1855	ATLANTIC	Geo.	50,000	25	5	Jan. & July		12	12,000	200	81	5 00	
13	1855	ATTLEBORO'	Mass.	50,000	100	3	June & Dec.	75	13	6,000	151		4 00	Henry Rice, Clerk and Supt.
14	1850	AUBURN	N.Y.	60,000	50	5	Jan. & July	100	14	12,000	400	120	7 00	Rosin gas.
15		AUGUSTA	Geo.				Do.		15					*Please fill blanks.*
16	1858	AUGUSTA	Me.	86,000	50		Do.	50	16	10,000	285		4 00	
17	1816	BALTIMORE	Md.	550,000	100		June & Dec.	135	17	180,000	8,200	1,800	2 50	Columbus O'Donnell, Pres. Length of mains 65 miles.
18	1852	BANGOR	Me.	120,000	100	5	Jan. & July	104	18	17,000	764	80	3 50	
19		BATAVIA	N.Y.			4	Do.		19					*Please fill blanks.*
20	1858	BATH	Me.	68,000	100		Do.		20	10,000	230	18	3 75	
21	1858	BELFAST	Me.	18,000	100		Do.		21	7,000	133		7 00	Rosin Gas. Works just commenced. W. H. Burrill, Supt.
22	1856	BELLEFONT	Pa.	20,000	25		Do.		22	3,500	105	18	4 00	Doing well. Edmund Blanchard, Pres.
23	1854	BETHLEHEM	Pa.	23,000	50	2	June & Dec.	100	23	2,000	207	29	3 80	
24	1858	BINGHAMPTON	N.Y.	50,000	50	3½	May & Nov.		24	10,000	230	58	4 00	
25	1858	BORDENTOWN	N.J.	50,000	25		June & Dec.		25	4,000	114	16	3 80	
26	1822	BOSTON	Mass.	1,000,000	500	2	Do.	140	26	200,000	10,410	2,265	2 50	Quarterly div. 2½ per cent., Mar., June, Sept., Dec.
27	1851	BRIDGEPORT	Ct.	75,000	25	5	Jan. & July	100	27	10,000	500	58	4 00	
28	1857	BRIDGETON	N.J.	22,000	00	4	Do.		28	3,000	169	13	4 00	U. D. Woodruff, Pres.
29	1855	BRISTOL	R.I.	35,000	25		Do.	70	29	6,000	120	24	4 00	
30	1825	BROOKLYN	N.Y.	2,000,000	20	4	Do.	130	30	150,000	10,000	2,600	3 00	
31	1848	BUFFALO	N.Y.	600,000	50	5	Do.	115	31	70,000	3,800	2,000	3 00	
32	1858	BURLINGTON	Vt.	75,000	25	5	Do.		32	10,000	220		4 50	
33	1852	CAMBRIDGE	Ma-s.	200,000	100		Feb. & Aug.	106	33	20,000	1,294	257	3 50	Extra div. 5 per cent., April 15, 1859.
34	1859	CAMDEN	N.J.	100,000	100	4	April & Oct.	100	34	10,500	700	140	3 50	O. W. Goodwin, Supt.
35	1858	CANANDAIGUA	N.Y.	50,000	50	3	Jan. & July	90	25	7,000	190	21	4 00	
36	1858	CAPE ISLAED	N.J.	80,000	100		October		36	10,000	80	20	6 00	Bathing station. Works run 2½ months in the year.
37	1858	CATTSKILL	N.Y.	10,000		3	Private		37	3,000	134	20	4 00	Owned by G. T. Sutton, Peekskill.
38	1846	CHARLESTON	S.C.	723,800	25		Jan. & July	112	38				4 00	
39	1851	CHARLESTOWN	Mass.	150,000	50	4	Do.	120	39	25,000	1,150	210	3 50	Light Somerville also Pop. 7,000.
40	1858	CHARLOTTE	N.C.	14,000	50	4	Mar. & Sept.	110	40	3,500	120	50	7 00	Rosin gas. Waterhouse & Bowes, builders and lessees.
41	1849	CHICAGO	Ill.	750,000	25	6	Jan. & July	105	41		4,100	970	2 50	New contract with City Council for 12 years.
42	1851	CHILLICOTHE	O.	40,000	25	5	Do.	100	42	12,000	290	33	3 50	J. W. Graham, Sec.
43	1841	CINCINNATI	O.	1,000,000	100	4	Do.	115	43	200,000	6,000	1,700	2 50	
44	1854	COHOES	N.Y.	50,000	20	5	April & Oct.		44	5,000			3 60	*Please fill blanks.*
45		COLCHESTER	Ct.			3½	Do.		45					
46	1858	COLUMBIA	Pa.	37,500	25		Jan. & July	70	46	5,000	250	21	3 50	
47	1852	COLUMBIA	S.C.	44,000	25		Do.		47	6,000	400	55	6 00	Rosin gas. G. E. Walker, Pres.
48	1858	COLUMBUS	Ga.	54,175	25	5	Do.	95	48	8,000	246	17	7 00	Rosin gas. No debt. Two years' stock of Rosin.
49	1850	COLUMBUS	O.	100,000	10	5	Do.	120	49	30,000	800	174	3 00	
50	1853	CONCORD	N.H.	45,000	50	4	Do.	112½	50	10,000	400	38	3 50	
51	1854	CUMBERLAND	Md.	60,000	50	3	Do.		51	6,000	230	36	4 00	
52	1857	DANBURY	Ct.	15,000	25	4	Do.	100	52	7,000	118		4 00	
53		DAVENPORT	Iowa.				Do.		53					
54	1848	DAYTON	O.	50,000	25	4	Feb. & Aug.	90	54	25,000	575	165	4 00	*Please fill blanks.*
55	1853	DEDHAM	Mass.	40,000	50		Jan. & July		55	6,000	112		4 00	Henry W. Richards, Treas.
56	1849	DETROIT	Mich.	250,000	50	5	Do.	100	56	30,000	1,417	491	3 50	
57	1857	DORCHESTER	Mass	110,000	100		Do.	50	57	12,000	210	50	4 00	
58	1859	DOVER	Del.	25,000			Do.		58	2,000				*Please fill blanks.*
59		DUBUQUE	Iowa.				Do.		59					*Please fill blanks.*
60	1853	EAST BOSTON	Mass.	133,000	25	4	Do.	102½	60		475	270	3 50	George H. Plummer, Treas.
61	1858	EAST GREENWICH	R.I.	11,200	100	15	Do.	100	61	3,000	100		7 00	Rosin Gas. Works not extended to the town.
62	1850	EASTON	Pa.	125,000	50	4	June & Dec.	120	62	6,000	657	76	3 60	Capital in use, $108,850.
63	1856	EASTPORT	Me.	31,569	55		Do.		63	5,000	135	15	4 00	
64	1855	ELIZABETH	N.J.	100,000	20	3½	Jan. & July	95	64	3,500	230	40	3 80	Capital in use, $59,000.
65	1852	ELMIRA	N.Y.	50,000	25	3½	Do.	70	65	10,000			4 00	*Please fill blanks.*
66	1852	ERIE	Pa.	68,000	50	3½	June & Dec.		66	10,000	300	80	3 00	
67	1847	FALL RIVER	ass.	26,000			Private works.		67	12,000	400	60	3 50	Owned by a manufacturing company.
68	1859	FAYETTEVILLE	N.C.	25,000	100	6	Jan. & July	100	68	7,000			6 00	Rosin gas. *Please fill blanks.*
69	1857	FISHKILL	N.Y.	12,000	25		Do.		69	1,000	50		6 00	
70	1853	FITCHBURG	Mass.	45,000	50	3	Do.	60	70	7,000	180	34	4 00	H. F. Coggeshall, Supt.
71	1855	FLUSHING	N.Y.	41,000	50	1½	Mar. & Sept.		71	6,500	134	18	4 00	
72	1851	FRANKFORT	Ky.	30,000			City Works		72	5,000	140	79	4 50	Works owned by city. Av. gross receipts $7,500.
73		FREDERICKSBURG	Va.	75,000	50	5	Jan. & July	40	73					*Please fill blanks.*
74	1851	FREDERICK CITY	Md.	36,000	100		Do.		74	5,500	300	40	6 70	Rosin gas.
75	1858	FREDONIA	N.Y.	10,000	50		Do.		75	2,000	87	8	4 00	Natural gas, issuing from a rock.
76	1855	GALENA	Ill.	80,000	50		Do.		76	8,000	236	60	4 00	
77	1858	GALVESTON	Texas.	12,000	50		Do.		77	7,000	150		6 00	
78	1854	GENEVA	N.Y.	75,000	25	3½	Do.		78	6,000		34	4 00	*Please fill blanks.*
79	1851	GLENN'S FALLS	N.Y.	35,000	50	3	Feb. & Aug.	80	79	4,000	161	18	4 00	
80	1851	GLOUCESTER	Mass.	40,000	50		Jan. & July		80				3 50	*Please fill blanks*
81	1855	GREAT BARRINGTON	Mass.	5,000	100		Apr. & Oct.		81	4,000	58	4	7 00	Rosin gas.
82	1854	HAGERSTOWN	Md	15,000	10		Jan. & July		82		125		7 50	Changing from oil gas to coal.
83		HALLOWELL	Me.				Do.		83					*Please fill blanks.*
84	1857	HARLEM (N.Y. City)	N.Y.	300,000	50	3½	Do.	105	84	25,000	700	1,800	3 50	District north of 79th Street.
85	1849	HARTFORD	Ct.	175,000	25	4	Do.	105	85	25,000			3 50	*Please fill blanks.*
86	1856	HOLLIDAYSBURG	Pa.	30,000	25	3	Do.	80	86	4,000	200	10	3 50	J. A. Landis, Pres.
87	1854	HONESDALE	Pa.	30,000	25	3	Do.	80	87	3,500	180	35	4 00	
88	1853	HUDSON	N.Y.	50,000	100	3½	Feb. & Aug.	100	88		260	64	4 00	Oliver Bronson, Pres.
89	1857	HUNTINGDON	Pa.	13,000	50	3	Jan. & July		89	2,000	105	15	3 50	
90	1856	HUNTSVILLE	Ala.	7,325	25		June & Dec.		90	2,000		100	5 00	Will the President please report?
91	1857	IOWA CITY	Iowa.	40 000	50		Feb. & Aug.		91	4,000				*Please fill blanks.*
92	1852	ITHICA	N.Y.	75,000	25	3½	Jan. & July	67½	92	6,000	212	26	4 00	
93	1857	JACKSON	Mich.	25,000	50		Do.	70	93	6,000	125	20	3 50	Earnings applied to improvements.
94		JACKSONVILLE	Ill.				Do.		94					*Please fill blanks.*
95	1856	JAMAICA	N.Y.	20,000	25	4	Do.	90	95	6,000	130	20	4 00	J. G. Lamberson, Sec.
96	1856	JANESVILLE	Wis.	50,000	100		Do.		96	12,000	200	30	4 00	Mortgage debt $20,000.
97	1858	JERSEY CY. & HOBOKEN	N.J.	300,000	20	5	Do.	120	97	30,000	1,900	212	3 00	
98	1856	JOHNSTOWN	Pa.	40,000	25		Do.	50	98	10,000	251		3 00	S. H. Smith, Treas.
99	1858	KALAMAZOO	Mich.	30,000	100		Do.		99	10,000			4 00	New company; no results.
100	1844	KENSINGTON	Pa.	100,000	10	5	Feb. & Aug.	110	100	60,000	2,800	400	2 50	
101	1855	KEOKUK	Iowa.	100,000	100		Jan. & July		101	10,000	360	120	3 50	Capital in use $50,500. Mortgage debt $61,000.
102	1855	KINGSTON	Pa.	50,000	50		Do.		102	3,000	240	30	4 00	
103	1854	KNOXVILLE	Tenn.	63,000	50		April & Oct.		103	4,000	128	40	5 00	
104	1854	LAFAYETTE	Ind.	60,000	50	3	Jan. & July		104	8,000	250	60	3 25	Charles Collins, Supt.
105	1849	LANCASTER	Pa.	100,000	25	4	Do.	80	105	15,000	610	100	3 00	Capital in use $74,000.
106		LANSINGBURG	N.Y.	25,000			Private works.		106	7,000			4 00	G. H. Norman, owner.
107	1849	LAWRENCE	Mass.	120,000	100	5	Feb. & Aug.		107	15,000	745	68	3 50	
108		LEWISTON	Me.	100,000	50	4	Jan. & July	100	108	10,000	300	104	4 00	
109	1856	LEWISTOWN	Pa.	19,800	100	3	Do.		109	7,000			4 00	*Please fill blanks.*
110	1853	LEXINGTON	Ky.	60,000	20	3	April & Oct.	80	110	3 000	150	18	3 60	J. W. Shaw, Sec.
111	1838	LOUISVILLE	Ky.	481,400	50	6	Jan. & July	125	111	50,000	2,839	938	2 70	Robt. G. Courtenay, Pres.
112	1849	LOWELL	Mass.	200.000	100	5	Do.	120	112	50,000	2,290	220	3 25	
113	1853	LYNCHBURG	Va.	70,000	25	5	Do.	104	113	8,000	320	50	3 80	
114	1852	LYNN	Mass.	55,000	100	4	Do.	100	114	20,000	400		4 00	
115	1859	LYONS	N.Y.				Do.		115					Company now organizing.
116	1852	MACON	Geo.	75,000	25	4	Do.	112	116	5,000	254	105	5 00	Gas made of pine wood.
117	1851	MADISON	Ind.	60,000	25	3	Do.	70	117	10,000	303	95	3 50	A. Todd. Pres.
118	1855	MADISON	Wis.	100,000	25		Do.		118	5,000	220	70	6 00	
119	1854	MALDEN & MELROSE	Mass.	50,600	100	3	Feb. & Aug.	100	119	5,000	180	25	4 00	
120	1852	MANCHESTER	N.H.	100,000	100	5	Jan. & July	110	120	25,000	800	125	3 00	J. T. P. Hunt, Agent.
121	1830	MANHATTAN (N.Y.Cy.)	N.Y.	4,000,000	50	5	Do.	150	121	600,000	25,000	8,576	2 50	Capital in use $3,000,000.
122	1857	MARIETTA	O.	30,000	50		Do.		122	6,000	125	7	4 00	
123		MASSILON	O.				Do.		123					*Please fill blanks.*
124	1855	MEADVILLE	Pa.	36,000	25		Do.		124	3,000	150	90	3 50	
125		MEMPHIS	Tenn.				Do.		125					*Please fill blanks.*
126	1852	MIDDLETOWN	Ct.	50,000	25	3	Mar. & Sept.		126	10,000	250	30	4 00	
127	1852	MILWAUKIE	Wis.	400.000	50	5	Jan. & July	105	127	24,000	1,450	275	3 50	Capital in use $242,000.
128	1836	MOBILE	Ala.	200.000			Do.		128	80,000		850	4 50	
129		MONTGOMERY	Ala.	100,000	100		Do.		129	7,000		280	6 00	
130		MORRISANIA	N.Y.				Do.		130					Company now organizing.
131		MORRISTON	N.J.				Do.		131					Company just organized. Laying pipes.

JOHN B. MURRAY & CO.'S

Price Current of the GAS-LIGHT SHARES of CITIES and TOWNS, Corrected July 30, 1859.

No.	Organized.	Town.	State.	Capital.	Dollars each Share.	Semi-Ann'l Div.	Dividends payable.	Price per cent.	No.	Population of Gas District.	Private Consumers.	Public Lamps.	Price 1,000 feet.	REMARKS.
132	1855	Mount Holly	N.J.	16,650	50	3	April & Oct.		132	2,000	140		7 00	Rosin gas.
133	1857	Muscatine	Iowa.	50,000	25		Jan. & July		133					*Please fill blanks.*
134	1845	Nantucket	Mass.	86,000	100	4	Feb. & Aug.	95	134	10,000	270	65	4 00	Geo. W. Macy, Pres.
135		Nashua	N.H.	45,000	60		Jan. & July.	85	135	10,000	250	46	3 50	
136	1850	Nashville	Tenn.	140,000	50	6	Do.	110	136	11,000	700	200	4 00	
137		Natchez	Miss.						137					*Please fill blanks.*
138	1846	Newark	N.J.	300,000	50	4½	Do.	110	138	45,000	2,400	453	3 50	
139	1856	Newark	O.	30,000	100		Do.		139	7,000	135	30	3 50	
140	1852	New Albany	Ind.	50,000	50	3½	Do.		140	16,000	250	78	3 50	
141	1852	New Bedford	Mass.	180,000	100	5	Do.		141	15,000	1,125	304	3 25	
142	1852	New Brunswick	N.J.	100,000	20	4	Do.	115	142	15,000	460	75	3 80	Capital in use $58,800.
143	1852	Newburg	N.Y.	667,000	20	3½	Do.	90	143	15,000	600	55	4 00	
144	1857	Newcastle	Del.	22,300	10	3	Do.	95	144	1,200	112	19	4 00	Thos. T. Tasker, Pres; M. M. Cleaver, Treas.
145	1848	New Haven	Ct.	200,000	25	4	Do.	130	145	30 000	2,004	201	4 00	
146	1853	New London	Ct.	70,000	50	3	Do.	100	146	12,000	300	12	4 00	J. N. Harris, Sec. and Treas.
147	1835	New Orleans	La.	1,500,000	100	6	Do.	154	147	120,000	5,000	2,000	4 50	
148	1854	Newton & Watertown	Mass.	87,900	100	2½	Do.	60	148	10,000	265	51	4 00	
149	1853	Newport	R.I.	130,200	100	4	Do.	105	149	10,000	500	96	3 50	Henry Bull, Pres.; John H. Cozzens, Sec.
150	1823	New York	N.Y.	1,000,000	50	5	May & Nov.	170	150	100,000	18,000	3,150	2 50	
151	1853	Norristown	Pa.	41,700	25	3	Jan. & July	105	151		350	50	3 75	
152		Northern Liberties	Pa.	400,000	25	7½	June & Dec.	140	152				2 50	*Please fill blanks.*
153	1856	Northampton	Mass.	35,000	25		Do.		153	4,500	140	30	4 00	
154	1859	Norwalk	O.	150,000	100		Jan. & July		154	4,000	100	26	4 00	*Please fill blanks.*
155	1857	Norwalk	Ct.	26,670	25	4	Do.	105	155	6,000	205	8	4 00	Isaac S. Burr, Treas.
156	1855	Norwich	Ct.	75,000	25	4	Do.	100	156	12 000	500	100	3 50	S. Dunham, Prest., B. M. Douglass, Supt.
157	1852	Oswego	N.Y.	81,250	25	3½	Do.	85	157	15,000			3 80	*Please fill blanks.*
158	1855	Ottawa	Ill.	45,000	25	6½	Do.	100	158		222	71	4 00	W. W. Cushman, Pres.; L. Mason, Sec.; W. Cogswell, Supt.
159	1856	Owego	N.Y.	40,000	50	3½	Do.		159	10,000	180	36	4 00	
160	1845	Painsville	O.	200,000	100	5	May & Nov.		160					*Please fill blanks.*
161	1857	Palmyra	N.Y.	12,000	50		Jan. & July.		161	4,500	120		3 50	
162		Paterson	N.J.	110,000	5	3	Do.	95	162	18,000	600	96	4 50	
163	1850	Pawtucket	R.I.	65,000	50	4	Do.	106	163		475	75	3 50	
164	1855	Peekskill	N.Y.	31,000	50	3	June & Dec.		164	4,000	190	37	4 00	G. T. Sutton, Lessee.
165	1855	Peoria	Ill.	90,000	50		Do.		165	8,000	340	140	3 50	
166	1852	Petersburg	Va.	120,000	25	5	Jan. & July	100	166	20,000	560	192	3 80	Jas. N. Nichols, Pres.; W. H. Baxter, Sec.
167	1841	Philadelphia	Pa.	3,000,000			City Works.		167	650,000	32,000	5,000	2 25	Revenue $1,100,000. Length of mains 255 miles.
168	1855	Piqua	O.	50,000	50		Jan. & July	95	168	5,000	175	51	4 00	
169	1836	Pittsburg	Pa.	300,000	50	5	Do.	140	169	55,000	2,500	516	1 50	James M. Christy, Treas.
170	1854	Pittsfield	Mass.	40,000	100		Do.	60	170	6,000	210		4 00	
171	1853	Plymouth	Mass.	40,000	100		April & Oct.		171	8,000	181	5	4 00	
172	1849	Portland	Me.	250,000	50	4	Jan. & July	110	172	30,000	1,900	242	3 50	For public lamps $3 00 per 1,000 feet.
173	1851	Portsmouth	N.H.	60,000	100	3	April & Oct.	90	173	12,000	425	81	4 00	John Trundy, Agent.
174	1855	Portsmouth	O.	50,000	50	?	Jan. & July	100	174	6,000	350	63	3 50	
175	1855	Portsmouth	Va.	80,000	50	4	Do.	100	175	7,000	236	58	4 00	
176	1850	Pottsville	Pa.	104,500	50	2	Do.	50	176	8,500	520	62	3 30	Changed from rosin to coal, 1856.
177	1850	Poughkeepsie	N.Y.	70,000	25	4	Mar. & Sept.	85	177	15,000	625	64	4 00	S. B. Johnston, Treas.
178	1848	Providence	R.I.	525,000	50	4	Jan. & July	112½	178	50,000	4,000	820	3 00	
179	1854	Quincy	Ill.	89,650	50	4	June & Dec.	90	179	18,000	398	217	3 50	
180	1835	Racine	Wis.	40,350	25		Do.		180	7,000	200	33	3 50	
181	1857	Rahway	N.J.	35,000	20		Jan. & July	100	181	5,000	150		4 00	
182	1858	Raleigh	N.C.	18,000	100	6	May & Nov.	110	182	5,000	108	34	6 00	Rosin gas. Waterhouse & Bowes, builders and lessees.
183	1848	Reading	Pa.	80,000	25	3	Jan. & July	75	183	20,000	700	40	3 00	
184	1852	Richmond	Va.	341,975			City Works.		184	30,000				*Please fill blanks.*
185	1848	Rochester	N.Y.	200,000	50	5	Jan. & July	115	185	40,000	2,000	430	3 00	L. A. Ward, Sec. and Treas.
186	1854	Rockland	Me.	50,000	100		Do.	60	186	6,000	170	150	4 40	
187	1852	Rome	N.Y.	35,000	100	3½	Do.		187			20	3 60	*Please fill blanks.*
188	1854	Rondout & Kingston	N.Y.	65,000	20	3½	June & Dec.	100	188	3,000	375	36	4 00	
189	1854	Roxbury	Mass.	150,000	100	5	Jan. & July	110	189	20,000	1,100	360	3 50	Quarterly div., 2½ per cent., Jan., April, July, Oct.
190		Saco	Me.	71,600	100	3½	April & Oct.		190		220	18	4 00	
191		Saint Joseph	Mo.						191					*Please fill blanks.*
192	1847	Saint Louis	Mo.	600,000	50		June & Dec.		192	90,000	4,000	1,550	3 50	*Please fill blanks.*
193	1857	Saint Paul	Min.	200,000	50	3	Jan. & July	75	193	10,000	159	154	6 00	High price caused by freighting coal from Pittsburg.
194	1856	Salem	N.J.	30,000	20	3	Do.		194	5,000	260	26	3 80	
195	1850	Salem	Mass.	125,000	100	4	Feb. & Aug.	110	195	22,500	1,300	150	3 50	12 miles street mains.
196	1859	Salisbury	N.C.	14,000	50	6	May & Nov.	100	196	3,500	70	50	6 00	Rosin gas. Waterhouse & Bowes, builders and lessees.
197	1854	Sandusky	O.	75,000	50		April & Oct.		197	9,000	300	70	3 00	City lamps extinguished at 11 P.M.
198	1858	Saratoga	N.Y.	75,000	100		Jan. & July		198	6,000	250	20	3 60	C. E. Durkee, Supt.
199	1851	Schenectady	N.Y.	50,000			Private Works		199	11,000	400	160	4 00	Smith & Craige, Proprietors.
200	1857	Scranton	Pa.	100,000	25		Jan. & July	75	200	4,000	120		3 80	
201	1857	Selma	Ala.	20,000	100		Do.		201	2,000	40	18	5 00	
202	1856	Seneca Falls	N.Y.	80,000	50	2	Do.	60	202	6,000	220	37	4 00	M. L. Bellows, Supt.
203		Shreveport	La.						203					*Please fill blanks.*
204	1855	Stamford	Ct.	22,000	25	5	April & Oct.	110	204	7,000	140	55	4 00	
205	1854	Springfield	Mass.	75,000	50		Jan. & July		205	7,000	375	100	3 25	
206	1857	Staten Island	N.Y.	150,000	50	5	Do.	100	206	26,000	260		4 00	
207	1859	Staunton	Va.	18,000	50	6	Do.	100	207	4,000	70		7 00	Rosin gas. Waterhouse & Bowes, builders and lessees.
208	1848	Syracuse	N.Y.	125,000	25	5	Mar. & Sept.	100	208	25,000	1,200	260	3 80	
209	1859	Tarrytown	N.Y.	70,000	50		Do.		209	8,000			4 00	*Please fill blanks.*
210	1853	Taunton	Mass.	60,000	50	3	Jan. & July	100	210	12,000	245	44	4 00	
211		Terre Haute	Ind.				Do.		211					*Please fill blanks.*
212	1853	Toledo	O.	100,000	50	3	Jan. & July	70	212	9,000	450	65	3 50	
213	1847	Trenton	N.J.	100,000	20	4	Do.	100	213	15,000	700	95	3 80	Quarterly div. 2 per cent., Jan., April, July, Oct.
214	1848	Troy	N.Y.	200,000	100	4	June & Dec.	110	214	35,000	1,575	312	3 60	
215	1849	Utica	N.Y.	80,000	100	4	April & Oct.	100	215	22,000	612	112	3 60	H. H. Fish, Sec. & Treas.
216	1854	Vicksburg	Miss.	66,000	50		Mar. & Sept.		216	4,000	220	115	4 50	W. H. Shaw, Sec.
217	1858	Washington	D.C.	500,000	20	5	Jan. & July	120	217	50,000	2,500	800	3 50	Congress is equal to probably 2,500 more.
218	1854	Waterbury	Ct.	100,000	25		Do.		218	6,000	200	36	4 00	C. B. Merriman, Pres; H. B. Field, Sec.
219	1852	Waterford	N.Y.	12,000			Do.		219	4,000	80			W. T. Seymour, Sec.
220	1852	Watertown	N.Y.	20,000	25		Do.		220		260	36	7 00	*Please fill blanks.*
221		Watutna	Wis.						221					*Please fill blanks.*
222	1852	Westchester	Pa.	50,000	25	2½	Feb. & Aug.		222	3,000	543	64	3 50	
223	1853	West Troy	N.Y.	100,000	50	3	Jan. & July	80	223	8,000	425		4 00	
224	1850	Wheeling	Va.	75,000	25	6	Do.	108	224	13,000	700	129	2 70	
225	1850	Williamsburg	N.Y.	337,500	50		Do.	75	225	60,000	1,700	681	3 50	
226	1857	Williamsport	Pa.	31,000	25		Do.		226	6,500	253		3 80	Capital in use $24,575.
227	1856	Wilkesbarre	Pa.	50,000	25		Do.		227	4,000	450		3 80	
228	1853	Wilmington	N.C.	60,000	50	5	Do.	102½	228	8,000	286	62	5 00	Rosin gas.
229	1852	Wilmington	Del.	130,000	50	5	Feb. & Aug.	132	229	15,000	1,250	130	3 50	
230	1854	Winchester	Va.	36,000	50	2½	Mar. & Sept.	75	230	5,000	195	40	4 00	
231	1856	Woodstock	Vt.	7,950	50	4	Jan. & July	70	231	4,000	79	1	6 00	Rosin gas.
232	1858	Woonsocket	R.I.	82,600	100	5	Do.	75	232	4,000	200		3 50	R. G. Randall, Treas.
233	1849	Worcester	Mass.	120,000	100	5	Do.	90	233	25,000	920	127	3 50	
234	1854	Yonkers	N.Y.	70,000	50		Do.		234	6,000	290		3 80	
235	1849	York	Pa.	40,000	50	3	June & Dec.	90	235	9,000	314	37	7 00	Changed from coal to rosin. Alex. Small, Pres.
236	1858	Ypsilanti	Mich.	20,000	50		Feb. & Aug.		236	6,000	140	20	4 00	Earnings for 1859 used in extending mains.
237	1848	Zanesville	O.	44,600	25	4	Do.		237	10,000	318	73	3 50	Thos. Halpin, Sec.

CANADA GAS-LIGHT COMPANIES.

1	1848	Kingston	C.W.	20,000	100	5	Mar. & Sept.	105	1	12,000	400	106	3 50	John Kerr, Manager.
2	1853	London	C.W.	100,000	20	5	May & Nov.	100	2	12,000	300	112	5 00	
3	1847	Montreal	C.E.	300,000	40	4	Mar. & Sept.	108	3	80,000	2,000	500	3 25	
4	1854	Ottawa	C.W.	40,000	20		Do.	87½	4		284	50	4 00	
5		Quebec	C.E.	180,000	200	4	Do.	116	5		1,217	365	3 00	*Please fill blanks.*
6	1847	Toronto	C.W.	400,000	100	4	Feb. & Aug.	99	6	50,000	1,919	874	3 33⅓	Quarterly div., 2 per cent. Feb., May, Aug., Nov.

CUBA GAS-LIGHT COMPANY.

1	1844	Havanna	Cuba	125,000	500	7½	Jan. & July	155		5,537		1,715	5 00	

CAUSES OF THE VARIABLE ILLUMINATING POWER OF COAL GAS.

A PAPER on this subject, read last year by Professor W. E. A. Aikin, of the Maryland University, before the American Association for the Advancement of Science, at Baltimore, in which he endeavored to show that a serious loss of quality and volume takes place by confining the gas over water for a length of time, brought out a reply from Professor Torrey, of New York, who conceived that the views and results of Professor Aikin were fallacious, and that the great absorption and loss of illuminating power were owing to the large disproportion between the volume of gas and the great surface of water in contact with it, and exposed to the external atmosphere. Professor Torrey repeated Professor Aikin's experiments, in order to compare the changes produced in coal gas when confined by water presenting a large surface, with that confined by a narrow ring. The results of both we now present, and they will be compared with interest by all connected with the subject, practically or theoretically. No doubt there is a condensation of a quantity of the heavier hydro-carbons when warm gas is passed into very cold gas-holders, or through the mains in frosty weather; but this takes place only in the winter season, and is taken up again as the weather grows warm, so that the consumer ultimately sustains no actual loss on account of this condensation.

ON THE DETERIORATION OF COAL-GAS WHEN KEPT IN CONTACT WITH WATER.

PROFESSOR AIKIN'S EXPERIMENTS.

In common with a large number of our citizens, my attention was directed, some short time since, to a somewhat sudden, inexplicable, and enormous increase in the amount of our quarterly bills for gas consumed—an increase equal at times to an advance of a hundred per cent. over the corresponding quarter of the preceding year. As it would have been absurd to suppose a simultaneous derangement of all the meters over an extensive district, it was obvious that the difficulty could not lie in any error in the registry of the gas, but in its illuminating power, necessarily requiring the consumption of a greater bulk of gas to produce a given quantity of light. Feeling curious to know how this difference could have occurred, I set myself to work to ascertain, if possible, what causes could be acting to diminish the illuminating power of gas.

It has long been known that the quality of the gas produced from the fat coals is very materially influenced by the circumstances of the decomposition. In the elaborate experiments made some years ago on a most extended scale by Hedley, the British Engineer, as detailed in his report to a committee of the House of Commons, we find this subject most satisfactorily discussed. Below a cherry red heat the products obtained by heating coal in close vessels contains hardly any illuminating material. At that temperature it is furnished most freely, but after having been formed is liable to decomposition, involving a loss of carbon by contact with any highly heated surface in passing through the apparatus—such decarbonization increasing with the degree of heat, with the extension of the red-hot surface, and with the time of contact. Again, the duration of heat is most important, the best gas coming over during the first hour, the quality rapidly deteriorating, until at the expiration of four hours the product is worth very little to the consumer, and after five hours may be considered as worthless. But the bulk of such worthless gas that can still be obtained by pushing the process to completion is very considerable, equal sometimes to two-fifths of all that passes over.

How far any neglect in the observance of the precautions required to produce a proper illuminating gas, may explain the result, the public have no means of knowing. All that we know is that the manufacturers furnish an article which they say is the right article and prepared in the right way, and possessing an illuminating power varying from fourteen to seventeen candles—that is, their engineer reports that, on trial with a photometer, at stated times, the gas burning from a jet, consuming five cubic feet per hour, gives an amount of light equal in the average to that of fifteen patent candles, six to the pound—the patent candle being ostensibly a mixture of spermaceti and wax. Assuming as true all that is claimed by the manufacturers, it can still be shown that the gas, even if properly made and correctly tested, may be and is furnished to the consumer in a condition of greatly diminished illuminating power, compelling the consumption of a greater bulk to obtain the required light, and consequently swelling the record of the meter and the sum total of the quarterly bills. In my trials to determine the specific gravity of our gas, by weighing a globe previously exhausted and then filled with it, I obtained a result ranging from .570 to .580 somewhat below that given as characterizing good gas. But in reality I attach very little importance to this result since the mere specific gravity of such a complex mixture as coal gas can hardly be relied upon to determine its commercial value.

Although good gas has certainly a higher specific gravity than poor, yet the difference could not be taken to represent the true difference in value, since the principal components of the mixture—hydrogen, carbonic oxyd, light carburetted hydrogen, olefiant gas, and other still heavier hydro carbons having specific gravities, widely different—might vary somewhat in their relative proportions sufficient to affect the illuminating power, without, at the same time and to the same extent, affecting the specific gravity. The action of chlorine in removing the olefiant gas, and other more dense hydrocarbons, the principal light giving materials of the coal gas, showed a percentage of these substances never exceeding ten per cent. But not having time at the moment to guard against all sources of error in the process, laid it aside. My attention was directed principally to the simple inquiry, to what extent will the illuminating power of the gas be impaired by keeping it in contact with water for noted periods? That it does deteriorate when thus kept, or when kept in contact with oil, or even close vessels, has been long known.

Dr Ure tells us that gas from oil, when first made, and with a specific gravity of 1.054, will give the light of one candle when burned from jets consuming two hundred cubic inches per hour. But keep the gas three weeks, and then to get the same light from the same burner, you must supply six hundred cubic inches per hour. He adds that with coal gas the deterioration appears to be more rapid. For if such gas when first made will give the light of one candle by the consumption of four hundred cubic inches per hour, when kept four days will require the consumption of four hundred and sixty cubic inches per hour to give the same light. My first attempt to obtain some definite results began on the evening of the 8th of April, when I filled a large receiver from the street main, and placed it on the shelf of the pneumatic trough; the next evening I filled a second one, and put it alongside of the first; the following evening I filled a third receiver, and still the following evening, the 11th, I filled a fourth receiver. On the evening of the 12th I was thus provided with four jars of gas, one of which had been standing twenty-four hours, or one day, over the pneumatic trough—this I will call No. 1; another, No. 2, had been standing two days; No. 3 had been standing three days; and No. 4 had been four days in contact with the water. The diminution in volume by such exposure was indicated by a receiver graduated to cubic inches, into which I introduced one hundred and thirty cubic inches of gas on the evening of the 8th; on the evening of the 12th this had lost about ten and a half cubic inches, indicating a loss of about eight per cent. of the original bulk.

The effect produced on the illuminating power of the gas by the loss of volume became at once apparent as I proceeded to contrast the value of the flames furnished by the contents of the several receivers—1, 2, 3, and 4. I used for this purpose the ordinary photometer arrangement, taking the relative intensity of the shadows produced as a measure of the relative intensity of the light. The candle employed for the comparison was the patent candle already referred to, and the burner was the kind known as fish-tail burner, which had been previously gauged, and known to consume a trifle more than five cubic feet per hour, with the average maximum pressure of the gas-works. I need hardly add that the burner was the same in all the trials, and occupied exactly the same position. The burner, and the screen on which the shadows fell, were not moved at all during the experiments. The only adjustment wanted was to bring the candle nearer to or farther from the screen, and by beginning with the most luminous gas, the adjustment became simply a gradual withdrawal of the candle.

The capped receiver from which the gas was passed floated freely in a large glass jar, supported in an erect position by the perpendicular sides of the jar—its own weight, with all attachments, making a difference of level between the water around it and that within, equal to three and a half inches—a little exceeding the ordinary evening pressure in the gas-pipes. This difference of level, and consequently the pressure on the escaping gas, was kept uniform by the spontaneous sinking of the receiver as the gas was consumed, a flexible tube communicating between the stop of the receiver and the gas burner. This arrangement gave me a steady, equable flame, which continued perfectly uniform long enough to enable me, after a few trials, to note, very exactly, its true value. The results as first obtained were too startling to be at once believed, but subsequent repeated trials satisfied me that they were very close approximations to the truth. The first trial was with the gas from the street-main, which I found equal to 10.71 candles. The same gas, transferred from the pipe to the capped receiver, and burned immediately, gave exactly the same power, 10.71 candles.

Gas No. 1 was next used, and found equal to only 3.50 candles.

Gas No. 2, after standing two days, gave the light of 3.20 candles.

Gas No. 3, three days old, was equal to 1.90 candles.

Gas No. 4, four days old, gave the light of 1.75 candles.

These quantities representing the average of repeated trials.

It thus appears that the illuminating material of our coal gas is so rapidly abstracted by suffering it to remain in contact with water, that the same volume of gas which to-day will give me the light of nearly eleven candles, by standing until to-morrow will give the light of only three and a half candles, and if left standing four days, will give the light of only one and three-quarters candles, while the only means left to the consumer to get the light he requires from this deteriorated gas is to burn more of it, as we have all been doing through the past winter. If we now take into account the well-known fact that gas of less illuminating power has less density, and that gas of less density passes more rapidly through a given aperture than gas of greater density, we have another cause operating to increase the consumption. In Hedley's experiments the Argand burner which gave the light of twenty-five candles when supplied with three cubic feet per hour of gas from Welsh cannel coal, with a specific gravity of .737, required no less than seven and a half feet per hour to give the same light, from the same burner, when the gas was made from the Newcastle coal and had a specific gravity of only .475.

Again, as we diminish the illuminating power of the gas, we increase its heating power, and this necessarily brings with it a higher temperature given to the burners, a higher temperature given to the gas passing through them, and again an increased rapidity in the flow. It is thus manifest that the public are placed in a peculiarly unfortunate position, since all the mistakes that are likely to occur in the process of manufacture are mistakes that must inevitably increase the bills of the consumer and the profits of the manufacturer. If the workman fails to raise the heat with proper rapidity, if he overlooks a retort and allows the heat to continue a little too long, if towards the close he allows the heat to rise a little too high, the result is inevitable—the product is deficient in illuminating power. Or, if on any one day a little more gas is produced than is legitimately required, the surplus remains in the gasometer to vitiate the supply of to-morrow. To what extent this vitiating action operates may be inferred from the fact that I have never been able to obtain from the gas of our pipes an illuminating power equal to the minimum of that reported by the engineer of the gas company. In my trials the power has varied from that of thirteen candles down as low as that of nine candles, instead of ranging from fourteen to seventeen candles.

This difference is perfectly intelligible if we assume the last quantities to represent the value of the gas when first made, and my results to represent its value as delivered to the consumer.

In conclusion, I would merely add, that the difficulty suggests its own remedy; and that would be, to have a standard of quality established by the proper authorities, taking the illuminating power as the basis of the calculation, and then to have the requirements of such standard insured by a nightly examination, if necessary, on the part of some one entirely disconnected with the manufacture. In other words, the photometer can be made as available and as valuable to the consumer of gas as the hydrometer is to the spirit merchant; as he distinguishes with his instrument in any mixture, between the spirit he wishes to buy and the water he is unwilling to pay for, so the consumer of gas can distinguish with the photometer between the true illuminating material and the worthless heat producing gases, hydrogen and light carburetted hydrogen, that make up the bulk of the ordinary coal gas.

PROFESSOR TORREY'S REPLY.

1. On the 5th of April gas of 16.01-candle power was introduced into four holders of 10 inches diameter, surrounded by a ring of water 1½ inches wide.

After 46 hours, the illuminating power was equal to 15·26 candles.

"	70	"	"	"	13·74 "
"	94	"	"	"	13·43 "
"	142	"	"	"	13·06 "

Total diminution of illuminating power after six days equal to 2·95 candles.

2. On the 28th of April a gas holder of 11 feet diameter, sealed by a ring of water 3½ inches wide, was filled with gas of 14·94 candle power. After 5 days the illuminating power was equal to 14·48 candles, a diminution of 0·46 candles.

The water in these holders had been previously used.

3. On the 6th of April a glass jar was filled with 100 cubic inches of gas of 16.01 candle power, bromine condensing 5·42 per cent., and allowed to stand in a pneumatic trough over Croton water of 56° Fahr. After five days, bromine condensed only 3·50 per cent., and the gas contained—

Carbonic acid	1·50	per cent.
Oxygen	3	"
Nitrogen	4.50	"

The illuminating power was very much diminished. It burnt with a pale bluish flame, like gas mixed with atmospheric air.

The different conditions under which gas was kept over water in these experiments will explain the results. A certain quantity of water cannot deteriorate coal gas to an unlimited degree, but only a certain amount of it, according to the co-efficients of absorption of water for the constituents of coal gas. These co-efficients vary with the temperature and pressure.

One volume of water absorbs of—

	At 32° F.	At 59° F.	At 68° F.
Hydrogen,	0·01930	same	same
Carbonic oxide,	0·03287	0·02432	0·02312
Light carb. hydrogen,	0·05449	0·03909	0·03499
Olefiant gas,	0·2563	0·1615	0·1488

From this it appears that water at 59° Fahr. absorbs
8·37 times more olefiant gas than hydrogen.
6·64 " " " carbonic oxide.
4·13 " " " light carb. hydrogen.
and that the deterioration of coal gas by water only continues till the water is saturated with olefiant gas, further changes being due to changes in temperature and pressure. When the temperature of the water rises, the co-efficients of absorption diminish, and olefiant gas is set free; when it falls, a proportionate amount of olefiant gas is again absorbed. Pressure increases the absorptive power of water for gases.

In experiment No. 3, a small quantity of gas was kept over a large quantity of fresh water, from which it took up gases dissolved in it, and lost a large proportion of its olefiant gas.

In experiments Nos. 1 and 2, larger volumes of gas were kept over water saturated, or nearly saturated, with olefiant gas, with only a narrow ring of water exposed to the action of the atmosphere. As along this ring gases very rich in olefiant are constantly given off, the amount lost by a volume of gas must depend upon the surface of the ring.

Suppose the width of the ring equal to r, and the radius of the gas-holder equal to R, its height being H, then $\frac{(2R+r)r}{HR^2}$ would represent the relation of the surface of the ring to the volume of the gas-holder.

The value of $\frac{(2R+r)r}{HR^2}$ is diminished by diminishing r and increasing H and R; or the loss of olefiant gas is diminished by narrow rings and large holders.

If the values of R and r are inserted in experiments Nos. 1 and 2, supposing H to be equal to 3 feet in both instances, which was about the average height of the gas volumes, the loss of gases rich in olefiant should be in the proportion of 39 : 7 (supposing temperature, pressure, and quality of gas to be the same in both instances,) which seems to agree very nearly with the loss of illuminating power actually found.

ON VENTILATION.

We recommend the following lines, which come properly under the head of Public Health, to the "sextants" of all our concert-rooms, theatres, and many of the churches; to the officers of the Hudson River and New York and New Haven Railways, and almost every public building in America. It is an astonishing fact that in this free country, where the air is surely free, there is still such a utilitarian spirit abroad, that we prefer using over again air already exhausted, to getting it fresh and pure, and permitting the foul and pestiferous to escape.

A Appeal for Are to the Sextant of the Old Brick Meetinhouse.

BY A GASPER.

O sextant of the meetinnouse, wich sweeps
And dusts, or is suposed too! and makes fiers,
And lites the gas, and sumtimes leaves a screw loose
in wich case it smells orful—worse than lam-pile;
And wrings the Bel and toles it when men dyes
to the grief of surviving pardners, and sweeps pathes
And for the servaces gits $100 per annum,
Wich them that thinks deer, let em try it;
Geting up befoar star-lite in all wethers and
Kindlin fiers when the wether is as cold
As zero, and like as not grean wood for kindlers
I would'nt be hired to do it for no some—
But o sextant! there are 1 kermoddity
Wich's more than gold, wich doant cost nothing,
Worth more than anything exsep the Sole of Mann
I mene pewer Are, sextant, I mene pewer Are!
O it is plenty out o dores, so plenty it doant no
What on airth to do with iself, but flys about
Scatering leavs and blowing of men's hatts;
in short, its jest "free as are" out dores.
But o sextant, in our church its scarce as piety,
scarce as bank bills when agints beg for mischuns,
which some say is purty often (taint nothing to me,
Wat i give aint nothin to nobody); but o sextant
u shet 500 men, wimmen and children,
Speshally the latter, up in a tite place,
Some has bad breths, none aint 2 swete,
Some is fevery, some is scrofilus, some has bad teath,
And some haint none, and some aint over clean;
But every one on em breathes in & out and out and in.
Say 50 times a minit, or 1 million and a half breths an our.
Now how long will a church-ful of air last at that rate,
I ask you, say 15 minits, and then wats to be did?
Why then they must breethe it all over agin,
And then agin, and so on, till each has took it down
At least 10 times, and let it up agin, and wats more
The same individible dont have the priviledge
of breethen his own are, and no ones else;
Each one mus take whatever comes to him.
O sextant, doant you no our lungs is bellusses,
To blo the fier of life, and keep it from
going out: and how can bellusses blo without wind
And aint wind *are?* I put it to your conschens.
Are is the same to us as milk to babies,
Or water is to fish, or pendlums to clox,
Or roots and airbs are to an injun Doctor,
Or little pils unto an omepath,
Or boys to guris. Are is for us to breethe.
What signifies who preeches if I cant breethe?
Wats Porl? Wats Pollus? to sinners who are ded—
Ded for want of breth? why sextant, when we dye
Its only coz we cant breethe no more—thats all.
And now, o sextant, let me beg of you
2 let a little air into our church.
(Pewer air is sertin proper for the pews)
And do it week days and Sundays tew.
It aint much trouble—only make a hole
And the air will cum in of itself
(it luvs to come in whare it can git warm);
And o how it will rouse the peepul up,
And sperrit up the preecher, and stop garps,
And yawns and figgits as effectooal
As wind on the dry Boans the Profitt tells of.

GAS-ENGINEERS' COLUMN.

The following communication will be recognised by the initials at foot, as coming from the pen of one of the most distinguished and able gas-engineers in the United States. We hope to hear from him very often. His remarks are so full of practical sound sense, that although rather long for our columns for this number, we refrain from abridging a word:

(*For the American Gas-Light Journal.*)

Messrs. Editors,—I enclose my subscription for one year, and acknowledge the receipt of a package of four copies of the first number of your Journal, two of which I have forwarded to the Engineer (formerly an assistant in my office) of the Gas Works, San Francisco, California—my object being to extend a knowledge of your enterprise to the furthermost limits of *enlightenment* on our continent.

Your paper will satisfy a requirement long felt among both gas and water engineers—the *London Journal* having become so much devoted to mere local interests, and its columns so much engrossed by the squabbles of rival companies, parish authorities, and other functionaries, as to leave little room for matters of general interest to professional men in either speciality of *gas-engineering* or *water-supply*.

These two branches, I think, are properly the legitimate subjects for the editorial department, and for correspondence in your Journal. Railroad and canal builders, who have heretofore monopolized the title of "civil engineers," form so small a portion of professional men devoted to kindred pursuits, that the claims of the remaining majority can be no longer ignored, and some *organ* is certainly required to give utterance and publicity to their thoughts and requirements.

The original intention of your publication, to point out to capitalists a good channel for investment, will make it acceptable to the *stockholders* of gas companies, but it may also be made instructive and useful to those who by their knowledge, experience, and care, earn for the stockholders their dividends.

The superintendents, or managers of nine-tenths of the 400 gas-light companies of our country, are young men of good general education, performing the duties of engineer, secretary, and accountant, combined in one. Most of them are by natural intelligence and ordinary school teaching, fitted for the post of secretary and book-keeper, and from such works as "Clegg," "Peckston," "Hughes," the compilations of Encyclopedias, and dictionaries of art and science, have acquired sufficient theoretical knowledge of the construction of small works and method of manufacture, to undertake with the assistance of a good practical foreman, the management of country works. But there are a thousand little details connected with the business, which years of practice may leave undiscovered to them, and unknown, unless pointed out by older hands. As a vehicle for such information, your Journal offers the most appropriate, if not the only mode of conveyance. So also as regards others more experienced in the business. The natural ingenuity and thirst for improvement constitutional with our people, are constantly leading to newer, shorter, less laborious, and cheaper methods of doing everything. The old patterns of machinery and apparatus in use in England, which our engineers and machinists have made use of in many of our gas-works of even recent construction, are gradually being bettered in shape in the Old World, and it only requires the mechanical ingenuity and activity of our own countrymen to be called into requisition to produce something still better for the purpose. When anything of this kind is brought forward and subjected to the critical examination of the practical and scientific editor of the American Gas-Light Journal, let us have not only a thorough explanation of the supposed improvement in all its bearings, but let it be accompanied by such drawings and references as will render it intelligible to any one at all conversant with the subject. By this means, if worthy of adoption, its benefits will be more widely spread—and if faulty in any particular, the practical knowledge or acuteness of some other mind may detect its deficiencies, and save outlay of time, labor, and expense.

Your notice to correspondents has elicited these remarks, perhaps too trite and common place for the space they would occupy. But as the more scientific department of our business, the chemistry of gas-lighting, motion of fluids, &c., will doubtless find able exponents in your Journal in the engineers and professional men of our large cities, perhaps a word of explanation occasionally from a Graduate to the Freshman, may not come amiss to fill a spare corner of the sheet which, if acceptable, shall be forthcoming.

I. G. H.

TO LITERARY AND SCIENTIFIC INSTITUTIONS.

There are hundreds of young students in the various Literary and Scientific Institutions in the United States, to whom the American Gas-Light Journal would be an interesting and instructive paper. To all institutions of whatever religious denomination, whose means are too limited to subscribe, we will, with pleasure, send the Journal *free of charge*, and we recommend those that are able to order it to do so from the first number, of which we have printed a few hundred copies expressly to fill orders.

GAS-LIGHT-INGS.

Brooklyn (N. Y.) Water Works.—In consequence of the appointment of a Committee by the Common Council "to look after the rights of the tax-payers," the Water Commissioners now refuse to permit the pipes to be tapped until the water rates are paid for a year in advance.

Chicopee, Mass.—The Ames Manufacturing Company make their own gas. Their works cost $30,000; were built by them, and have been very successful.

Fort Hamilton, N. Y.—We are surprised to learn there are no gas-works here. Where are George S. Gelston and John B. Kitching?

Harlem, N. Y.—This company has declared an extra dividend of 3½ per cent.

Huntsville, Ala.—The entire quotation of this company was wrong in our first number. The printed form of interrogations was sent in a sealed envelope, addressed to the company, and was returned, filled up as we printed it, signed "J. W. Smith, Supt." We correct it in this number. It is difficult to imagine the great labor and expense we have been subjected to in collecting information about companies scattered over the Union, many of whom, not comprehending our design, were loth to give the information sought. We hope they will now appreciate our desire, and enable us to be prompt, accurate, and fair in our statements, as we certainly desire and intend to be.

Independence, Mo.—No gas company here.

Janesville, Wis.—We have received a justly severe letter about this company. The writer says, speaking of the discredit of their coupons: "We do not know why the Janesville Company does not take care of its credit. We think they could pay as well at maturity as at sixty days. They seem disposed to give as much trouble as possible. * * *" This company issued 8 per cent bonds to the amount of $20,000, the coupons of which are payable semi-annually in the city of New York, but no provision is made for their redemption here, and on writing to the company, some time since, for payment, they replied that they would pay the coupons there, but were not willing to submit to the exchange on New York funds! This is a cool evasion of their contract, and one that will not be submitted to, as they will find when the next coupons mature.

Orange, N. J.—Gas works are being built here, and are expected to be in operation during this month. They will cost, completed, $55,000, and will commence with two hundred consumers, among a population of six thousand in the gas district.

FIRE INSURANCE.

Some of our friends have asked us what is the relevancy of the fire insurance to the gas-light interest, that we have devoted so much valuable space to it. We reply that, as a general rule, owners of gas-light shares are owners also of real estate, and have consequently stores or dwellings to insure. This is the case especially in the country, where the subscriptions to erect gas-works are general among householders, all of whom desire to know in what companies they can insure their property. Again, wherever there is a gas-light, (excepting in the public lamps,) there is a house to cover it, so that the two interests may be said to be eminently identical and inseparable. For these reasons they are combined in the American Gas-Light Journal, and while seeking to include all the sound companies, we have carefully avoided others, even at the expense of our pecuniary interest. Our list of fire insurance companies comprises, therefore, the best institutions in this city, and none else, and parties at a distance may insure in them with the same confidence that our own citizens do. Applications by letter, with diagrams, addressed to any of the companies named, *or to us*, will be as promptly and as honorably treated as if made in person. We wish it observed that we state the Assets of the companies, because their surplus is, in some instances, greater than their original capital, and injustice is often done the strongest companies by disregarding their surplus when estimating their strength. We commend the list of Fire Insurance advertisements, on page 15, to the especial attention of owners of insurable property here and everywhere.

The Retort Posthumous.—We have heard of the retort-courteous, and of the retort-supercilious, and of the retort-disputatious; but we never heard before of the retort-posthumous, and here it is. A Mr. William Kensett died lately in London, leaving £20 to charities, his body to the medical profession, and his bones to the Imperial Gas Company, with a legacy of £10 to the latter, on conditions that they be consumed in one of their gas retorts of that company. When the company's annual report to its shareholders appears, we may possibly be informed what amount of light was evolved from the carbonization of the testator's bones, however deficient his brains may have been in the distillation of their illuminating power *ante-mortem*.

SABBATON'S

PATENT IMPROVED

CAST-IRON FURNACE FRAME AND DOOR,

ARRANGED TO PROTECT THE IRON-WORK OF THE DOOR AND FRAME FROM DIRECT CONTACT WITH THE FIRE.

Fig.1 *Fig.2*

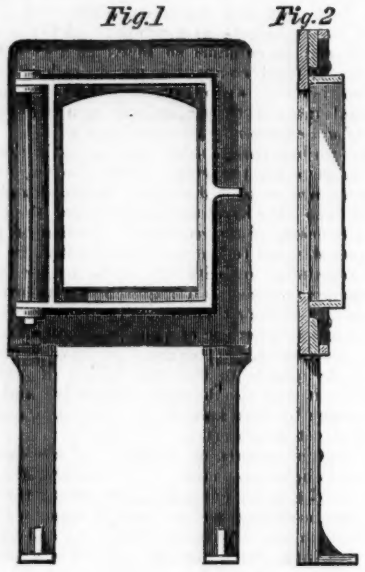

Fig. 1 is a front elevation and Fig. 2 a section. The frame and door are constructed in such a manner that the opening of the frame is considerably larger than the furnace mouth, and the door frame itself, which is also somewhat larger than the furnace mouth, shuts up against the brick-work or against a false frame that is placed between the frame and brick work. The door is filled with fire-brick or a slab of fire-clay, which the fire cannot injure. This only comes in contact with the fire; and as no air goes to the furnace in immediate contact with the lower part of the inside, a bank of unburnt coke or other fuel protects the inside of the lower part of the frame. One of these doors will last considerably longer than the ordinary ones, and the trouble and expense of replacing doors so frequently is saved. All the Frames and Doors that were first put up three years ago, are still in use and in good order.

For Sale only by **HERRING, FLOYD & KIBBE,**
SOLE PROPRIETORS,
740, 742, *and* 744 *Greenwich Street, New York.*

SABBATON'S PATENT SCREENING SHOVELS,

For Coke, Anthracite and other Coals, Apples, Vegetables, &c. The best Shovel ever made for lifting any article which requires screening. Made in all sizes of a very superior quality of MALLEABLE IRON. Is much lighter, more durable and in every respect superior to wrought iron.

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GAS COMPENSATORS OF ALL SIZES,

SELF-ACTING VALVES, EXHAUSTERS, upon an Improved Plan,

Costing less than half of those of English Manufacture.

ALSO, CASTINGS OF EVERY DESCRIPTION FOR GAS WORKS.

The above articles are shown in drawings and described in circulars published by Messrs. ELLIMAN BROTHERS, 217 Pearl Street, New York, and orders are received by them on the same terms as ourselves.

Orders for any of the above articles are also received through T. W. PARMELE, 4 Irving Place, New York.

For Sale by **HERRING & FLOYD,**
740, 742, *and* 744 *Greenwich Street, New York.*

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Banking, Exchange, and Collecting House,
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Northern and Eastern Collections made and remitted for on day of receipt.
Bills of £1 and upward for sale, payable throughout Great Britain.

AMERICAN BANK NOTE COMPANY.
CERTIFICATES OF GAS LIGHT SHARES and Bank Notes Engraved with the greatest skill and promptness.
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MANHATTAN SAVINGS INSTITUTION,
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Assets, January 1, 1859, $1,183,600.98.
Open daily from 9 A. M. to 7 P. M.
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Mutual Life Insurance Company,
OF NEW YORK,
No 94 BROADWAY.
CASH ASSETS, MAY 1, 1859,..... $5.263,591.89
ISAAC ARBATT, *Sec'y.* FRED. S. WINSTON, *Pres't.*

Knickerbocker Life Insurance Co.,
OF NEW YORK,
No. 17 WILLIAM STREET,
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STEPH. C. WHEELER, *Sec'y.* ERASTUS LYMAN, *Pres't.*

NEW YORK LIFE INSURANCE CO.,
No. 112 and 114 Broadway,
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RALEIGH, N. C.
Gas Works erected in any part of the United States.

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James H. Carson,	Pres't.	Charlotte Gas-Works,	N. C.
D. G. Fowle,	do.	Raleigh "	N. C.
J. C. Smythe,	do.	Salisbury "	N. C.
Arch. McClean,	do.	Fayetteville "	N. C.
Joseph A. Waddell,	do.	Staunton "	Va.
A. G. Story,	do.	Little Falls "	N. Y.
Geo. H. Young, proprietor of Waverly,		"	Miss.

Wm. Johnston, Pres't Char & S. C. R.R., Charlotte, N. C.
A. B. Wood, Agt. Reading Iron W'ks, 57 Maiden l'e, N.Y.
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GAS ENGINEER AND CONTRACTOR.
COAL AND ROSIN WORKS
Of any capacity constructed on the most approved plans.
Refer to CHARLES ROOME, Esq., Prest. Man. Gas-L't Co., N. Y.
H. PUMPELLY, " " Albany, " "
J. K. BRICK, " Engineer Brooklyn Gas Co.

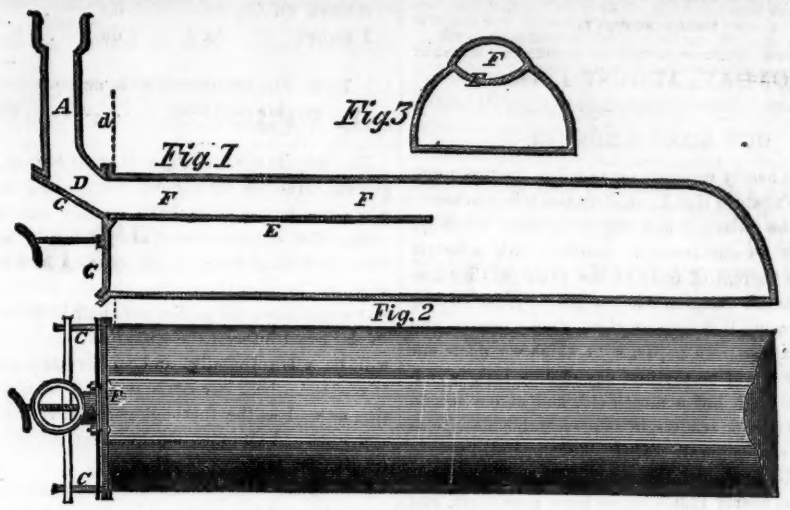
OFFICIAL.

New York State Inspector of Gas Meters,
OFFICE No. 561 BROADWAY.

The whole number of Gas Meters proved since the new law took effect, 4th May, 1859, is..... 6,406
Daily number proved, about..... 125
Number of proving apparatus used..... 31
Time required in proving, from 10 minutes to 1 hour each. The meters found incorrect have been about 4 per cent.

NEW YORK, July 30, 1859.
GEORGE H. KITCHEN,
State Inspector.

SYMMES' PATENT GAS RETORT.



THE above cut represents a new mode of connecting retorts to the "stand pipes" without using "mouth pieces," thus saving the drilling the flanges and making the joints, as well as some 250 lbs. of casting, and several bolts for each retort set. A narrow piece of the door C. closes the lower end of the stand-pipe. The plate E. is a separate piece, thinner than the retort, and may be secured to the door C., or slid over grooves made in the retort for that purpose. The retort is set in the ovens to the dotted line *d*. This mode of connecting may be applied to clay as well as iron retorts.

For information concerning the above, or for the castings, address

H. K. SYMMES, Newton, Mass.

Gas Works.

MORRIS, TASKER & CO.,
PASCAL IRON WORKS,
[Established 1821.]
PHILADELPHIA,
MANUFACTURE
WROUGHT IRON WELDED TUBES,
For Gas, Steam or Water.
LAP-WELDED BOILER FLUES.
Galvanised Wrought Iron Tubes.
ARTESIAN WELL PIPES,
Of Wrought or Cast Iron, screwed together, flush inside and out.
Gas Works Castings,
RETORT AND BENCH CASTINGS FOR COAL GAS WORKS.
CAST IRON STREET MAINS,
Bends, Branches, Drips, &c.
Gas and Steam Fitters' Tools, &c.
STEPHEN MORRIS, THOMAS T. TASKER, JR., CHAS. WHEELER. STEPHEN P. M. TASKER.

Sewing Machines.

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SEWING MACHINES.
No. 505 BROADWAY, N. Y
The very best in use. Send for a Circular.

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New Styles—Prices Greatly Reduced.
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AT GREATLY REDUCED PRICES,
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LESTER'S SEWING MACHINES,
LOCK-STITCH,
Prices from $50 to $150.
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Adapted to family use—doing light as well as heavy sewing.

THE WILLCOX & GIBBS'
FAMILY SEWING MACHINES,
The best family machine in the market.
Prices from $30 to $50.
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Gas Exhausters.

GEORGE WRIGHT & CO., LIVERPOOL.
T. W. PARMELE, SOLE AGENT.
No. 4 Irving Place, New York.

Miscellaneous.

Gas Coal, Clay Retorts, Exhausters, &c.,
T. W. PARMELE,
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ROOM 18, APPLETONS BUILDING.

Manufacture to order L. E. Hicks' Patent Gas Burner for Lighting Streets, Steamboats, Railroad Cars, Churches Theatres, Stores and Private Dwellings.

This burner has been subjected to every known test, of the justness of its claims in repeated instances, and by competent persons, and had the unqualified approval of the late Professor W. H. Ellet chemist to the Manhattan Gas-Light Company, and of Mr. J. K. Brick, Superintendent of the Brooklyn Gas-Works. The experiments of these gentlemen prove that its "economy" over ordinary burners in the consumption of gas, for equal illuminating powers, is in the ratio of 232 to 100.

We think this array of authority at least entitles our new burner to a full and fair trial.

GEORGE W. KRAFT,
GASOMETER AND BOILER MAKER,
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MANUFACTURES
Gasometers, Retort House Roofs, Water Tanks, Purifying Boxes, Coal Cars, Coke Barrows, and all kinds of Wrought Iron Work for Bridges, Buildings, &c., &c., &c.
☞ Particular attention paid to Alterations and Repairs.
REFERENCES:
John C. Cresson, Engineer Gas-Works, Philadelphia.
Joseph A. Sabbaton, Engineer Manhattan do., N. Y.
Col. W. S. Campbell, Engineer Gas-w'ks, N. Orleans.
P. A. Sabbaton, Engineer do. Albany.
Waterhouse & Bowes, Gas-engineers, Raleigh, N. C.
Joseph Battin, Newark, N. J.
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GAS-PIPE FOR SALE
CLOSING OUT STOCK AT 60 PER CENT. DISCOUNT.
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MANUFACTURERS OF THE BEST BLACK INK.
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A GENERAL ASSORTMENT OF STATIONERY ALWAYS ON HAND.
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A work indispensable to those interested in the manufacture of GAS AND GAS WORKS.
346 BROADWAY, NEW YORK.

The American Gas-Light Journal,

ISSUED MONTHLY.

MONDAY, AUGUST 1, 1859.

OUR SECOND NUMBER.

The right hearty welcome extended to the first number of the American Gas-Light Journal, is best acknowledged by the enlarged and improved sheet which we present now to our readers. Starting with a Letter Sheet Price Current of forty of the principal City gas-light companies, changing it into a quarto paper of four pages, enlarging that into an eight, then a twelve, and at last a sixteen page paper, with which we made our *début* to the world on the first day of July last, we appear now, though but a month old, and at our second interview with our readers, in as presentable a shape as any of our contemporaries of the periodical *genus*.

Of our first number, though "small and inconsiderable" in size, nearly 12,000 copies have gone forth, and the result is before our friends in the present issue. That there is a deep, universal, and abiding interest existing throughout the Union on the subject of gas-light, the best mode of producing, and the most economical mode of applying it to ordinary purposes, no one can question; if other evidence were wanting, that contained on pages 2 and 3 of the American Gas-Light Journal would be conclusive, and it is equally certain that it is but yet in its infancy. Scarcely half a century has elapsed since its introduction into this country, and our tables will show how slowly it has progressed from place to place even since that period. In 1816 it was imported from England into Baltimore, Md. Six years thereafter, in 1822, the city of Boston, Mass., ventured to risk the experiment of adopting it. New York city, not usually "behind the lighthouse," followed suit in the succeeding year, 1823. Two years afterwards, in 1825, the then little towns of Brooklyn, N. Y., and Bristol, R. I., were lighted with gas. In 1830 the Manhattan Gas-Light Co. shared the honors and profits with the New York Co. by rescuing from "outer darkness" the district north of Grand street, in this city. Again, five years elapsed, and in 1835 the New Orleans, La., Gas-Light Co. was established. In the following year Pittsburg, Pa., exchanged her oil-lamps for gas. In 1838, Louisville, Ky., was illuminated. In 1841, Cincinnati, O., and Philadelphia, Pa., were gas-lighted for the first time. In 1844, Kensington, Pa. In 1845, Nantucket, Mass., although a fishing town, gave up whale oil for gas-light, and Albany, N Y., followed her example. In 1846, Charleston, S. C.; Frankfort, Ky., and Newark, N. J. In 1848, Buffalo, N. Y.; Dayton, O.; New Haven, Ct.; Providence, R. I.; Reading, Pa.; Syracuse, N. Y.; Troy, N. Y.; Zanesville, O. In 1849, Chicago, Ill.; Detroit, Mich.; Hartford, Ct.; Lancaster, Pa.; Lawrence, Mass.; Portland, Me; Utica, N. Y.; Worcester, Mass.; York, Pa. In 1850, Auburn, N. Y.; Columbus, O.; Easton, Pa.; Nashville, Tenn.; Pawtucket, R. I.; Pottsville, Pa.; Poughkeepsie, N. Y.; Salem, Mass.; Wheeling, Va., and Williamsburgh, N. Y. Since which time, gas-light companies, in not only every part of this Union, but in South America and Central America, Mexico and the British Provinces, have been forming rapidly, and an impetus is now given to the enterprise, which will not be checked until the entire continent shall be lighted with gas from the Gulf of St. Lawrence, and the Atlantic on the north and east, to the entire length of the Pacific on the west and south. Until the present moment new companies have labored under serious disadvantages from the difficulty of ascertaining the best mode of building and equipping their works. Represented by no organ of their own, they have groped about in darkness, picking up, piecemeal, here and there, what little information they could find floating about, and boring the old companies for treatises on their experience, until, we are told, the officer of one of our largest city companies was about establishing, at his own expense, a bureau for imparting information, in order to save his time, which was laid thus under serious contribution by inquirers. Since the publication of the American Gas-Light Journal, he has recommended his correspondents to transfer their queries to us, which they have done by sending us their subscriptions, and we will be happy to reply to all as far as we are able.

Our Tables—still incomplete—include			
237 American Companies, representing..			$34,920,464
6 Canadian	do.	do. ..	1,040,000
1 Cuban	do.	do. ..	125,000
Total, 244 Companies, with an aggregate capital of.....			$36,085,464

The introduction of Pure Water, too, is attracting general attention throughout the United States, and while the larger cities have already supplied themselves, the smaller towns are gradually abandoning their old-fashioned pumps and cisterns as a public reliance, and inviting the cooling streams from neighboring rivers and lakes, for protection against thirst and fire. Of this great interest the American Gas-Light Journal will be a faithful ally, and an accepted medium between water-boards, contractors, and thirsty communities, as well as the thorough-going advocate of proper sewerage, and all other improvements affecting the Public Health.

One of the many embarrassments connected with a paper devoted to *specialities* such as this, is the judicious selection of advertisements, to avoid encumbering the pages with those that do not interest its patrons and readers. We have already found this to be the case; our old commercial friends having most generously offered us their favors of this description. *Of advertisements we have now enough offering.* Our first number contained many that were irrelevant to the subject, but it will be observed the evil is in a great measure remedied in this, and as soon as our present contracts expire, all advertisements not bearing directly upon the interests represented in the editorial columns will be rigidly excluded. In this generous land, inventors and traders are extremely liberal in this description of expenditure, and they find their interest promoted by it; but we must decline, as we have already done, to receive any more advertisements, excepting those directly bearing upon our *specialities*. But we want subscribers without limit—we want our paper to circulate in every city, town, and village in this country, from the wild marshes of Florida to the high ridge of the California mountains; from the dense cities of the Atlantic to the new and thriving towns of the Pacific: wherever light shines and water flows.

The three great interests represented by the American Gas-Light Journal are—Light, the best—Water, the purest—and the Public Health, as promoted by the sanitary measures through city authorities and other public bodies. Our pages embrace to-day able papers on each of these three vital and inseparable subjects. We commend them to the careful attention of our readers, as an earnest of others to follow, from various contributors whose names appear in another column. These articles will command universal attention; and where differences of opinion exist, they will call forth counter arguments from dissenters, until experiments, provoked by different theories, will enable us to approach perfection, while we possess now only improvement.

We are satisfied that great benefits are to result from the publication of the American Gas-Light Journal, and we ask the favor of those (and their name is Legion) who feel interested in either of its *specialities*—Light, Water, or the Public Health—to aid us in extending its circulation, until the figures at which we aim—100,000 copies—are fully reached.

TO ADVERTISERS.

Advertisements relating to materials used in the manufacture, improvement or distribution of gas and the supply of water, or in the construction of works—should be sent in at once, in order to appear in our next number. Yearly advertisements from $25 upwards, according to the space occupied. Special Advertisements double these rates. In all cases, the American Gas-Light Journal will be served gratis during the continuance of the advertisement. Advertisements of Gas-Fitters, Plumbers and Gas-Fixtures, will be arranged in separate columns for Albany, Baltimore, Boston, Buffalo, Mobile, New Orleans, Philadelphia, St. Louis, and other places. The circulation of the American Gas-Light Journal, in all the cities and towns where gas-light is used, will render it a desirable medium for local advertising of that description.

OUR KIND FRIENDS.

Among the many kind friends who have aided us with their suggestions and counsel, we would name the editors of the *Scientific American*, who have generously placed at the disposal of the American Gas-Light Journal whatever of their entire collection of engravings will interest our readers. We shall avail of their offer, and have to-day copied the lines on ventilation, and the list of patents issued, for which latter we shall be obliged to depend upon them for the present. The *Scientific American* should be in the household of every American family.

TO SUBSCRIBERS.

The American Gas-Light Journal will be issued on the first day of each month for the present. Its future will depend upon our observation of its influence throughout the Union, among those interested in the object of its mission. We may find it to be desirable hereafter to issue it more frequently, in which case advertisements will be inserted and the paper sent to the extent of numbers ordered.

It is our intention to enlarge and extend the Journal, to keep pace with the requirements made upon it. All new inventions relating to the gas-light and water interests; all legal decisions affecting the rights of companies or consumers; all new and projected works—in fine, every item of intelligence relating to them, will be embraced in its columns: so that it shall be the standard authority, in this country, for that department of science.

A remittance of three dollars will ensure the receipt of the American Gas-Light Journal for one year, postage prepaid. Yearly advertisers will receive the Journal gratis.

TO NON-SUBSCRIBERS.

Non-subscribers who have received a specimen number of the American Gas-Light Journal, and who wish to receive it regularly, will please remit the subscription price, *three dollars*, for which they will receive it for one year, *postage pre-paid*. Specimen numbers will be sent to new applicants.

TO GAS-LIGHT COMPANIES.

We again request the officers of all Gas-Light Companies to send us immediately such particulars of their affairs as will enable us to include them in our next Price Current. We will cheerfully and at once correct any inaccuracies on being apprised of them, and shall feel obliged by any suggestions of improvement. We will thank them also to distribute the copies sent herewith among their shareholders, every one of whom we expect to enrol as a subscriber. *Please fill all blanks in our Tables.*

GAS-LIGHT WORKS WANTED.

There are hundreds of small thriving towns in the United States that offer great inducements to contractors to build works. Wherever there is a population of 1,000 or over, in a growing village, among an industrious people, well-built Gas-light works cannot go wrong, provided the stock is not thoroughly *watered*, if the gas is. Water is as indispensible to the purity of gas as it is fatal to the value of the shares. The American Gas-Light Journal will notice any towns reported to it as wanting works erected.

TO CORRESPONDENTS.

We wish to be kept informed of all improvements in the manufacture and circulation of Gas and supply of Water, and of machinery incident to them, and will publish with pleasure any communications on the subject, duly authenticated by signature. We will not publish signatures unless desired.

All communications for the American Gas-Light Journal should be addressed to

JOHN B. MURRAY & CO.,
No. 40 Wall street, New York.

TO EDITORS THROUGHOUT THE COUNTRY.

Editors who are so kind as to notice the American Gas-Light Journal will confer a favour by sending us the paper in which we are mentioned.

JOHN B. MURRAY. JOHN W. BROWN.

JOHN B. MURRAY & CO.,
BANKERS,
No. 40 Wall St., Manhattan Bank Building,
NEW YORK CITY.
Buy and sell Business Paper, Bank and other sound Stocks, and Bonds.
GAS-LIGHT STOCKS OF CITIES
And other First-Class Securities.
The accounts of Country Banks and Bankers received on liberal terms.
Interest allowed on Deposits by special agreement.
COLLECTIONS
Made throughout the UNITED STATES, CALIFORNIA, CUBA, the BRITISH PROVINCES, SOUTH and CENTRAL AMERICA.

SPECIAL ADVERTISEMENTS.

COKE FOR SALE.—Apply to the Engineer of the New York Gas Light Co., bet. 21st and 22d Sts., E. R.

STATION METERS FOR SALE.—Two station meters; one to register 300,000, and one 500,000 feet per day. Apply to the Engineer of the Manhattan Gas-Light Co., at the Works foot of Eighteenth street, North River.

COKE FOR SALE — At the works of the Manhattan Gas-Light Company, 18th street station, corner Tenth avenue and 18th street; and 14th street station, corner Avenue C and 14th street. $2 50 per chaldron in the yard. Cartage seventy-five cents.

OUR CIRCULATION.

The first edition of the first number of the AMERICAN GAS-LIGHT JOURNAL was 10,000 copies; the second edition 1,864 copies; total, 11,864; the whole of which were forwarded to subscribers, and otherwise distributed in the principal cities and towns throughout the Union. We are now prepared to extend the circulation of the AMERICAN GAS-LIGHT JOURNAL to *One hundred thousand copies*, and we mean to compass that figure. It can be done, if all our friends who have responded so promptly to our first call will continue to interest themselves to extend the circulation of the JOURNAL, as they have already done. Hundreds of subscribers have come in from notices of the press and the suggestions of others, and we print a few letters to show what a hearty welcome has been given everywhere to the AMERICAN GAS-LIGHT JOURNAL, on the simple announcement of its publication. Clubs subscribing together will receive the JOURNAL on the terms stated to postmasters in another column.

CANVASSERS WANTED.

WE want canvassers in every city and town in the United States to procure subscribers (not advertisers) for the AMERICAN GAS-LIGHT JOURNAL. We intend to command a circulation of 100,000, and wish our canvassers to act accordingly with energy and industry. Address us at once, stating age, with reference from some bank or banker as to respectability and capacity.

TO POSTMASTERS.

POSTMASTERS and others who remit us Twenty-five dollars at one time, will receive *eight copies* of the AMERICAN GAS-LIGHT JOURNAL for one year, addressed as they may direct. *We pre-pay the postage of the* JOURNAL *in all cases.*

(*For the American Gas-Light Journal.*)

GAS-LIGHT FOR OMNIBUSES.

MESSRS. EDITORS,—In your last number you asked why gas-light was not introduced into carriages and hacks. Let me inquire why you did not include *omnibuses?* No public carriages need it more. A gas-holder could be arranged under the driver's foot-board, and the gas conveyed by a diminution pipe to a glass globe, set in the roof, directly behind the driver, which would serve the double purpose of lighting the interior of the carriage, and aid the driver in making change. The air-hole in the top of the globe could be protected by a tin roof. This would do away with the dangerous camphene lamps now in use.

If you think my suggestion worthy, give it a place in your excellent journal. A PASSENGER.

GAS-LIGHT SHARES FOR SALE.

We have a variety of city gas-light shares for sale throughout the Union. Parties wishing to sell or buy will please address

JOHN B. MURRAY & Co.,
No. 40 Wall street, N. Y.

CORRESPONDENTS' COLUMN.

A correspondent in this State, wishing to contract for gas-works, inquires—

Who gets up the best gas works to use the crude rosin?

What use can be made of the tar of rosin—as of gas oil—who buys it, and at what price?

What company has the best and neatest form of book receipts for gas companies? Can you not give us some form of organizing? This might be of service to many.

J. V. S.

(*From the Pittsburgh (Pa.) Gas-Light Company.*)

THE President says, in his Annual Report, dated July 13th, 1859:

"The comparative statements published in the last Annual Report have given so much satisfaction that I have extended them to the present year, and have given some further particulars both of the Pittsburgh Works and those of other cities—the last being derived chiefly from the AMERICAN GAS-LIGHT JOURNAL, published by Messrs. John B. Murray & Co., of New York, and containing much valuable information on this subject. THOMAS BAKEWELL,
"President of Pittsburgh Gas Company."

(*From Chicago (Ill.) Gas-Light Company.*)

Chicago, July 11th, 1859.

Inclosed you will find three dollars, for one year's subscription of this company to the AMERICAN GAS-LIGHT JOURNAL. Your first number is very attractive, and you have our best wishes for its success. An American journal on gas matters has long been needed, and we trust yours will fill the vacancy.

Philadelphia, July 12th, 1859.

We received the first number of your JOURNAL, and are much pleased thereat. We consider it a valuable document, and trust that you will be sufficiently encouraged to continue and enlarge it. We hand you herein an advertisement, which please insert in place of the one sent you a few days since, as being more appropriate.

Being interested in several gas companies not mentioned in your list, we should be pleased to have say two dozen No. 1, to send around, in order to call their attention to the JOURNAL.

SAVANNAH, (GA.) GAS-LIGHT CO., July 15th, 1859.

Messrs. JOHN B. MURRAY & CO.,
New York City.

Gentlemen,—Our president, Fras. T. Willis, Esq., to-day remits you $6, being to cover two subscriptions to your AMERICAN GAS-LIGHT JOURNAL. Please mail one copy of your first issue to my address as engineer of our company, and one to his as president.

Your enterprise promises to supply what has long been felt to be a desideratum by American engineers, who will, I feel confident, rally to establish your journal upon the substantial footing appropriate to the magnitude of the interests it advocates. For myself, I will be happy (if you desire it) to give through its columns any data of our working practice which may conduce to elicit an interchange of ideas between our gas companies. The extending use of clay retorts renders this an epoch of some interest in American gas-lighting; and in the discussion of their advantages your paper will confer upon small companies a benefit which the English exponent of gas-lighting rather vaguely and scantily supplies.

Trusting that your journal may attain the position, influence, *and circulation* which its mere existence seems to imply,

——— OHIO, July 15th, 1859.

Messrs. JOHN B. MURRAY & Co.

Gents:—I have read your little journal to-day, and you may put me down as a subscriber. I wish to make a few inquiries. Our town is a very snug compact little place, of about 4,000 or more inhabitants, and we have no gas-works. There are a number of towns in Ohio about like this, which have gas, and which are working well; but they have usually been built upon a subscription of about one-third or half the stock by the citizens, and the balance taken by the contractors; and it is thus well *watered*, as you say. I have an excellent location for a gas works upon the bank of the canal, where the pressure would be admirable, and water abundant, by merely tapping the canal. Coal could be delivered in boats directly at the yard, without any cartage, for about 12 cents for best Pennsylvania coal, or 7 cents, for Ohio coal. The price for gas in interior Ohio towns is about $3 50 to $4 00 per 1,000.

Small works would answer here; say about two benches of three retorts each.

Two miles of street pipe would be sufficient; say ⅓ mile of 4-inch, ⅓ mile of 3-inch, and 1 mile of 2-inch. We could count, I think, on 100 consumers to commence with, and perhaps 20 public lamps.

I have a mind to *try it alone*, and wish to know what such works would cost me, exclusive of building and ground, for the ground is idle and unproductive, and the estimate for the building I could make myself, or you may count it at $1,000.

I have been applied to earnestly by the owners of the ——— patent to put up works on their plan, and I wish to inquire what you think of rosin in comparison with coal gas. I can readily see that the public would feel dissatisfied if they understood that they were paying *double* for their gas, even though the illuminating capacity of ——— should be double that of coal gas. I have been applied to also by ———————, of ———, to try their light. Is it good? or even likely to compete with coal gas? My own preferences are for coal works; but I would have no objection to the ——— works if I can be satisfied that they will work well and economically. Some kind of works I am quite disposed to build this season yet, and to have in operation before winter.

Would it be a sensible investment, with 100 consumers to commence with, and with a prospect of reaching 200 within a year after starting? Our town is very compact and well built, and our citizens are able to have such a luxury. I think the works would be generously supported, and I would not desire to charge more than $3 50 per 1,000 feet. I wish to know what such works would cost me if honestly built, and what I could reasonably count upon as an income. In addition to the private consumers there would be four or five churches to supply, and three or four hotels.

Yours, truly, ——— ———

OFFICE VICKSBURG GAS-LIGHT CO.,
VICKSBURG, July 14, 1859.

Messrs. J. B. MURRAY & Co.,
40 Wall street, New York.

Gents:—The first number of your AMERICAN GAS-LIGHT JOURNAL was received to-day, and we were much pleased with it, believing from your well known enterprising spirit, you will make it Journal of reference invaluable to Gas Companies and Gas agents generally. Enclosed please find three dollars for the Journal for one year. I wish you every success in your undertaking.

OFFICE LOUISVILLE GAS COMPANY,
Louisville, Ky. July 11th, 1859.

Messrs. JOHN B. MURRAY & Co.,
No. 49 Wall street, New York:

Gentlemen.—We have received the first number of the AMERICAN GAS-LIGHT JOURNAL, and wish it success. Enclosed you have check on the Metropolitan Bank, New York, for which you will please send one copy to Thomas H. Crawford, mayor of the city of Louisville, and four copies to my address. An American journal of gas-lighting ought to be sustained, and will be. We hope to profit by information conveyed through its columns. Heretofore there has been no medium for interchange of thought or results between gas companies in the United States. New and improved methods or improved machinery may be in the possession of a few companies for years before they are generally known. However trifling an improvement may be in detail, its results, in aggregate, may amount to thousands. Recently we were informed by a gas engineer that a Western gas company had used successfully hydrate of lime to joint stand pipes instead of iron cement. If the lime joint is gas-tight—which we intend to test—it will cheapen the erection and removal of stand pipes. There is no reason why a gas company should desire to keep any improvement secret. A community of ideas and experiments would tend to increase the efficiency of all gas manufactories. As to general management, we cannot say with some of our contemporaries that our system is the best in the world in any point, yet it is the best that we, under the circumstances, can devise. No doubt general information on the subject would improve all our systems of management.

GAS OFFICE
Columbus, Ga., July 12th, 1859.

Messrs. JOHN B. MURRAY & Co.,
Bankers, Wall Street, New York:

Gentlemen,—I have received a copy of your excellent paper, the AMERICAN GAS-LIGHT JOURNAL, which I hope will succeed to an extent that will realize your highest wishes. It will, I have no doubt, promote the general interest of both companies and consumers, and be a medium of correct information among gas-makers.

NEWTON, Mass., July 15th, 1859.

Messrs. JOHN B. MURRAY & Co.,
No. 40 Wall Street, New York:

Gentlemen,—The first number of the AMERICAN GAS-LIGHT JOURNAL came to hand yesterday. I was much pleased with it, as what you propose to do is the *very thing* parties interested in gas-lighting have felt the want of for some years past; and such a journal, properly conducted, cannot fail of being highly beneficial to the interests it represents, and very successful. As a medium for advertising connected with gas-lighting, it will be highly valued, as the parties most likely to be interested will be reached at once.

——— Va., July 23d, 1859.

MESSRS. JOHN B. MURRAY & Co.

Gentlemen:—Enclosed please find $3 for the AMERICAN GAS-LIGHT JOURNAL for one year. I wish you success in your efforts to inform the people generally on the subject of the manufacture of gas, &c. We have a flourishing town of 1,000 to 1,500 inhabitants, with one academy, two female seminaries, four churches, five hotels, quite a number of stores, shops, groceries, &c. &c. Town compact, good gas, coal abundant and cheap (say 75 cents per ton delivered). In view of all these facts we believe that a small gas-light works would pay, besides being of great benefit to the citizens of the town. Therefore Mr. ——— and myself have obtained a charter from our authorities, and are now agitating the matter, with the view of erecting, or having erected, gas-works. We believe that from 400 to 600 burners would be used immediately. Any information on the subject of gas-lights, gas-making, fitting, fixtures, &c. &c. will be thankfully received.

J. M. H.

(*For the* AMERICAN GAS-LIGHT JOURNAL.)

Mr. Editor:—Can you inform me what is the rule observed by Gas Companies in calculating the contents of balloons, and what deduction is made for the lower and unfilled portion? I was recently told by a balloonist that it is customary to deduct one-fourth from the full measurement. G.

NOTICES OF THE PRESS.

(*From the New York Express.*)

GAS-LIGHT.—The AMERICAN GAS-LIGHT JOURNAL, published by John B. Murray & Co., will be found worth its cost per annum to many thousands of consumers and scientific men. There are now one hundred and eighty-three gas-works in operation, with $31,661,000 of capital. *Consumers* are the class to be educated through the Journal, upon the comparative cost of gas-light, and its most economical use. Most of the complaints of consumers arise from their ignorance, rather than from faults of gas companies or meters.

(*From the New York Evening Post.*)

We have received a copy of the first number of The AMERICAN GAS-LIGHT JOURNAL. It is devoted, as is indicated in the title, to the interests of gas-light companies and investers in this class of shares. This is the first paper ever published in this country identified with this important interest, which has an aggregate capital of fifty millions of dollars distributed among nearly four hundred companies. We have no doubt it will meet with liberal encouragement. It is published monthly by John B. Murray & Co., at $3 per annum.

(*From the N. Y. Commercial Times.*)

THE AMERICAN GAS-LIGHT JOURNAL.—John B. Murray & Co., Bankers, No. 40 Wall street, proprietors. This is a monthly sheet devoted to one of the largest investing interests of the country. If a well-printed, handsome journal is needed to bring the interests of gas companies before the public, we feel sure that as long as it is under the able management of our friends, Messrs. John B. Murray & Co., neither the public nor gas companies will ever have reason to complain.

(*From the Troy Times.*)

GAS-LIGHT.—John B. Murray & Co., Bankers, New York, have opened a new field of enterprise, by commencing the publication of an "AMERICAN GAS-LIGHT JOURNAL," devoted to the speciality its name indicates. Strange to say, this novel periodical starts its issue with a circulation of 10,000 copies—a striking proof of the importance of the business of which it treats, and the interest felt in the subject. The paper furnishes the prices current of one hundred and eighty-eight companies throughout the country, which are mainly in successful operation. These range from Portland on the north to New Orleans at the south.

WATER.

The following memoire from the pen of Col. JAMES B. MURRAY, the venerable father of the senior member of our firm, to whom, and to the Hon. MYNDERT VAN SCHAICK, the city of New York is indebted mainly for the inestimable blessing of the Croton water, was printed originally in pamphlet form, for private distribution exclusively, and dedicated by him to the surviving members of the Common Council of 1832, and to the memory of the departed.

We have Col. Murray's permission to present it to our readers, as being one of the most interesting and valuable reminiscences that we could lay before them.

Palmam qui meruit ferat.

ORIGIN OF THE CROTON AQUEDUCT.

As the inestimable benefits arising from the introduction of the Croton water and the system of sewerage, in their influence on the health and comfort of the inhabitants of the city of New York are now universally admitted, some reminiscences of the origin and progress of these measures may not be uninteresting, while a recurrence to past events frequently illustrates the importance of a calculative foresight in the administration of municipal affairs.

It is well known that, as far back as in the latter part of the last century, the minds of the civil authorities of New York were turned upon providing a reliable source from which to derive an abundant supply of pure and wholesome water, not only adequate to the then existing necessities, but with reference to the future growth of the city, and to furnish a substitute for that brackish liquid derived from the street wells, which was becoming more noxious as the density of population increased.

Reports on the subject, accompanied by various propositions, were made by Joseph Brown in 1798, by William Weston in 1799, as well as by others, but without any practical result.

THE OLD TEA WATER PUMP.

Partial supplies were obtained by the more wealthy from the Tea-water pump in Chatham square, and from the spring at Fort Gansevoort, carted in hogsheads about the city, and delivered in pails, at a high price, at their doors; two or three buckets per diem being considered a sufficient supply for a family. But to the poor this scanty luxury was inaccessible.

The inadequacy of these sources formed the basis of the argument by which certain shrewd speculators obtained the charter of the Manhattan Company, whose avowed object was to furnish an "abundant supply of pure and wholesome water"—a privilege which they claimed to monopolize, but which soon resolved itself into a mere banking corporation, having little regard to any other element; and from this institution and its retainers emanated a steady and powerful hostility to every legitimate plan for accomplishing the object in view—a hostility which, carried to the extent of the law, yielded only to the fearless action of the Common Council, sustained by the decision of the Judiciary.

In the mean time epidemics and fires were doing their work of havoc in our midst. Thousands of the inhabitants and millions of property were annually the victims of these destroyers; and in view of a rapidly increasing population, the city fathers were at their wits' end to devise a remedy.

Fire-engines could be used only to draw scanty supplies through suction pipes in the immediate vicinity of the rivers, or to receive contributions drawn from the street wells in leathern buckets, passed from hand to hand through lines of citizens, forced reluctantly into the ranks by civil authority, while the firemen, limited in number, were unable to give the aid they have always been anxious to afford.

Merchants and others formed themselves into associations, furnished with bags to save books and papers from the flames, as well as to aid in the removal of families and their effects, but always falling short of the exigency of the case.

THE OLD RESERVOIR.

At a later period a public reservoir was constructed on Thirteenth street, near the Bowery, then on the outskirts of the city, which was replenished by steam power, and came somewhat in aid of the gallant body of firemen, but still the cry was for a more abundant and certain supply.

The dread of a return of the yellow fever, which had paid its last visit in 1822, weighed still upon the minds of the community, and almost every family kept in view the necessity of being ready for flight at a moment's warning. The commercial interests were always in jeopardy, while the absence of all subterraneous discharge kept the streets in a condition reeking with noisome odors, occasioned by the garbage always accumulating on the surface.

DIVISION OF THE COMMON COUNCIL.

It was under this state of things that the city charter of 1830 took effect. This charter divided the Common Council into two boards. The late SAMUEL STEVENS, a devoted advocate of a bountiful supply of water, was chosen President of the Board of Aldermen, and JAMES B. MURRAY, First President of the Board of Assistant Aldermen.

Thus, in May, 1831, the labor of organizing the various departments under the new charter, was perfected, and it was soon apparent that great talents and large experience were indispensable to the successful working of the system.

In casting about for a suitable person to place at the head of the Street Commissioner's Department, their attention was directed to that distinguished engineer, the late Benjamin Wright, whose connection with the Erie Canal and other great public works throughout this continent, had given him a world-wide celebrity.

A strong appeal to his patriotism, in behalf of a city of which he had become a resident, induced him to forego a much more lucrative employment, and to take charge of the Street Commissioner's Department, aided by his very talented assistant, George B. Smith.

This city is more indebted to Judge Wright than to any other one individual for great and permanent public improvements—such as the enlargement of Union square; the establishment of Tompkins and Stuyvesant squares; the plan of gradation and profiling of the whole island, and especially of the east side of the city; regulating the Stuyvesant meadows; a proper system of public sewers, with improved air traps; Macadamizing and lighting the Third avenue to Harlem; an improved state of paving, curbing, and guttering the city, &c.

With Judge Wright was associated another eminent civil engineer, Canvass White; and in November, 1831, they made a joint report on supplying the city of New York with pure and wholesome water, which was referred, in the Board of Aldermen, to the Committee on Fire and Water, consisting of James Palmer, Samuel Stevens, and William Scott.

BRONX RIVER RECOMMENDED.

This Committee, on the 21st December, 1831, reported the draft of a law to authorize the Common Council to raise two millions of dollars for the object in view, *but rejecting the idea of going to the Croton River*, on account of the distance, difficulty of the route, and expense of construction, and recommending the use of the Bronx river, with Rye pond as a reservoir, and the Wampus and Byram ponds as auxiliaries.

The Common Council, finding this and other matters of application to the Legislature, very much neglected in that body, notwithstanding the efforts of Robt. Emmet, Esq, Counsel of the Board, appointed, by a joint resolution, approved 15th March, 1832, a Committee, consisting of Alderman James Palmer and Assistant Alderman James B. Murray, to proceed to Albany and to cooperate with Mr. Emmet in procuring the passage of the measures pending before the Legislature.

It then appeared that several of the members of the Senate and Assembly, representing the city, and to whom the various subjects had been referred, and especially Senator Stephen Allen, were opposed to granting to the Common Council the power asked for in the bill, and this opposition proved fatal.

The new Common Council were sworn into office in May, 1832. Henry Meigs, Esq., was elected President of the Board of Aldermen; Myndert Van Schaick was appointed Chairman of the Committee on Finance; James Palmer, on Water, and James B. Murray, on Streets.

THE FIRST CHOLERA SUMMER.

Shortly afterward, New York was, for the first time, visited by that terrific scourge, the Asiatic cholera, before which the affrighted inhabitants fled *en masse;* and the attention of the civil authorities became riveted to the subject of devising means which, under Providence, might save us from its future ravages.

Its effects were most fatal in impure and intemperate districts, of which there were many; and many thrilling incidents might be related, where the courage, as well as the judgment of the members of the Board of Health, was subjected to trying tests, resulting in the full establishment of a character for both.

An executive committee, invested with plenary powers to provide all the requisite supplies for hospitals, alms-houses &c., was appointed, consisting of Aldermen Woodruff, Robertson, and Mandeville, who held daily sessions at the Hall, and by whose incessant labor and excellent judgment, aided by that of Alderman Van Schaick, as treasurer, added to a wise economy, won the approbation of their fellow-members, and the community at large.

The fidelity with which each member of the Board of Health sustained the others, in that perilous ordeal, not only formed a bond of permanent personal attachment, but cherished a remarkable spirit of harmony in action, and especially in establishing the conviction that an abundant supply of water and a universal system of sewerage had become indispensably requisite for the public health.

Gross errors in constructing sewers, already in use, had created a general prejudice against the system, which those who had witnessed their successful operation elsewhere, found it difficult to overcome,

The Street Committee, to which belonged the direction of the sewerage, consisted of Aldermen James B. Murray, M. Van Schaick, and T. T. Woodruff, who, anxious to obtain all possible information on the subject, communicated with several other cities, and made a personal visit to Philadelphia, where the subject had already received much attention.

Aided by the public officers of that city, they examined their water and sewer system thoroughly, and returned, convinced of the indissoluble connection between both, which views were fully reported to the Board.

THE COMMITTEE ON FIRE AND WATER.

On the 1st October, 1832, President Meigs offered a resolution, which passed unanimously, that "the Committee on Fire and Water be instructed to report such measures as ought to be adopted for securing, with the least possible delay, the introduction of pure and wholesome water into the city."

On the 15th October, the Joint Committee, of which Alderman James Palmer was Chairman, made a unanimous report in favor of obtaining further information, through competent engineers, and appropriating one thousand dollars toward an examination; which report was adopted with great unanimity.

Colonel De Witt Clinton (son of the deceased Governor) was, at this period, a civil engineer in the service of the United States, whose talents were particularly well known to Alderman Van Schaick; and under his recommendation, and through his influence, the services of Col. Clinton were procured from the General Government, and his elaborate examination and report, since extensively circulated, justified their selection.

It was difficult, however, at the time of Col Clinton's appointment, to disturb the well-settled conviction that the Rye pond was the only true source of supply, although many doubted its eventual sufficiency, and an informal committee, consisting of Aldermen Palmer, Van Schaick, and Murray, accompanied by Col. Clinton, made a visit of inspection and discovery to Bronx river and Rye pond.

BRONX RIVER AND RYE POND EXAMINED.

Having made a diligent personal examination, and conferred with several of the old residents, and having been most hospitably entertained by Mr. Oliver Matthews, formerly in trade in New York, and an old acquaintance of Alderman Van Schaick, and who was a native of that locality and resided immediately at the outlet of Rye pond, the whole matter was thoroughly examined and discussed, and the testimony of those who were, from their infancy, acquainted with the capacity of Rye pond, disclosed the fact that it had undergone a progressive annual diminution; and this testimony created a determination in the minds of the Committee to grapple with the largest project and adopt the Croton river as the source of supply.

On the 24th December following, the report of the Joint Committee on Fire and Water was presented, accompanied by those of Col. Clinton and Messrs. Dewey and Serrel, civil engineers, whose services had been procured, and the whole were ordered to be printed, as well as the opinion of the Supreme Court, demolishing the monopoly claimed by the Manhattan Company and affirming the exclusive right of the Common Council over the whole subject-matter.

The jealousy of a majority of the city delegation at Albany, as to granting any power to the Common Council, and which had thus far paralyzed all their efforts, demonstrated the necessity of selecting an able and influential advocate in the Senate to succeed the Hon. Stephen Allen, whose term was about to expire; and the efforts of the friends of the Croton project were concentrated in favor of the Hon. Myndert Van Schaick, which resulted in his election, and he took his seat in the Senate of the State in January, 1833. Under his prompt action two bills were originated and passed into laws. The first of these bills was designed for the purpose of procuring additional information respecting the practicability of the route, the character and quantity of the water, and the expense of bringing it into the city, and was intended to confirm the report of Col. Clinton by another report, which might tend to impart confidence to many who doubted the expediency of an undertaking so stupendous. That bill received the unanimous approbation of the Common Council, and was passed by the Legislature, February 26th, 1833.

The perseverance with which our senator pursued his measures was shown by his coming down from Albany on the 7th of January to vote on its passage in the Board of Aldermen.

CROTON RIVER BILL PASSED.

That law effected its object, and upon the coming into the Legislature of the report of the Commissioners at the next session, in favor of the Croton, it was followed by him with the comprehensive act of twenty-four sections, passed May 2d, 1834, which enabled the Commissioners to bring the Croton river into the city.

When the appointment of Commissioners was about to be made under the first of these laws, Senator Van Schaick explained to his colleagues, in the Common Council, that he had not included in the list of names which he had presented to the Governor, any member of that body, assigning as the reason, that a course so apparently selfish would certainly be attributed to interested motives, and would be likely to prejudice the object, by raising a suspicion that personal interests were connected with the project. The propriety of making the sacrifice of the natural expectation that some one or more of those members of the Common Council, who had been most active in promoting the design, would be allowed the opportunity of deriving some honor from its development, was fully appreciated and acquiesced in.

The beneficial result of the policy inaugurated by the Common Council of 1832, and matured by the decisive movements of Senator Van Schaick, will be fully realized when that river shall discharge its full volume through a commercial metropolis, extending from the Battery to King's Bridge.

CROTON BILL RATIFIED BY THE PEOPLE.

When the question of permitting the Commissioners to proceed with this work came to the ballot-boxes as required by the act of 1834, a strong opposition was organized to prevent its ratification, but, thanks to the intelligence of the people, it was decided in the affirmative by an overwhelming majority.

It is due, however, to many of its opponents to add that experience has converted them into zealous supporters of the measure which has brought so much comfort and prosperity to the city of New York.

This brief memoir of events connected with this great undertaking, has been prepared, in a succinct form, as a tribute to those who aided successfully in its origin and consummation, and especially to the members of the Common Council of 1832–3, as its originators and advocates; and although a majority are beyond the reach of mortal eulogy, their descendants may be gratified by this reminiscence of intelligence and firmness, and their successors in office encouraged in an imitation of their patriotism.

It is a consolation, also, to the survivors to know that although their names may pass into oblivion, the great work has been consummated, and one of their most devoted co-laborers still lives to superintend and assist, as President of the Croton Aqueduct Board, in discharging the important duties of developing, more extensively, the benefits of a system, the foundations of which were laid in the measures adopted in 1832–3–4.

The names of the members of the Common Council of 1832 will close this memoir. They are as follows:

Wards.	*Aldermen.*	*Assistants.*
1.	John Yates Cebra,	John J. Labagh,
2.	Peter Sharpe,	Wm. Van Wyck,
3.	Wm. Mandeville,	James Monroe,
4.	George E. Smith,	Charles G. Ferris,
5.	Myndert Van Schaick,	David Banks,
6.	John R. Rhinelander,	Dennis McCarthy,
7.	James R. Whiting,	Thompson Price,
8.	Erastus Barnes,	Jeremiah Towle,
9.	Henry Meigs,	George Sutton,
10.	John Palmer,	Peter S. Titus,
11.	Henry P. Robertson,	Francis Fickett,
12.	Charles H. Hall,	Wm. W. Holly,
13.	James Palmer,	James Riker,
14.	Thomas T. Woodruff,	Samuel Dunshee,
15.	James B. Murray,	George W. Bruen.

Robert Emmet, *Counsel.*
Benjamin Wright, *Street Commissioner.*
George B. Smith, *Assistant Street Commissioner.*

CROTON AQUEDUCT BOARD, 1859.

President:	*Chief Engineer:*
Myndert Van Schaich.	Alfred W. Craven.
Assistant Commissioner:	*Assistant Engineer:*
Theodore R. Deforest.	John C. Winder.
Secretary:	*Contract Clerk:*
H. L. Robertson.	Alex. F. Dodge.
Registrar:	*Messenger:*
Revo C. Hance.	John J. Conklin.

THE PUBLIC HEALTH.

A highly important movement, concerning the welfare of the people, has been lately inaugurated in the city of New York, which is worthy of imitation throughout the country. It relates to the great subject of the Public Health; and as this is not a matter of professional interest exclusively, but involves also many points of popular inquiry and interest, it has been taken hold of, as it should be, by citizens out of, as well as learned men who are members of, the medical profession.

The particular and exclusive province of the medical man is the treatment and cure of diseases. In preparation for these he spends the years of his youth, and ceases only with his own summons to the grave, to study the innumerable phases of human diseases and the means of relief, as developed by the advancements of science.

Yet while the science of medicine, as popularly understood, has of late years made most astonishing progress with respect to the knowledge and treatment of diseases, and the prolongation of human life, that branch of it which pertains to the *prevention* of diseases has received less attention. Diseases have been allowed to invade whole communities; entire households have been suffered to be exposed to devastation and death, without proper inquiry, but all have been set down as "Visitations of Providence"—the sufferers, too often, not dreaming that the infliction might by any possibility be traced to causes within human control, and which therefore might have been avoided.

But of late years the great truth has dawned upon the popular mind, that many of the diseases which afflict humanity, even some of those which fall like a pall upon whole cities and countries, are actually within our means of prevention. Take, for instance, that most erratic and apparently uncontrollable of all the epidemic class—Asiatic Cholera—as it has appeared in this country. The observations and experience of the medical profession have proved that, to a very great extent, it is controllable and preventable. So might be mentioned other instances of diseases whose virulence has excited distress and alarm when they have appeared in former years, but whose advent now is only a signal to the sanitary officer for the application of preventive measures, with the almost certainty that, if properly enforced, the subtle destroyer will be arrested in its career.

But these observations are not confined to those diseases called epidemic, which appear only at intervals, which run a determinate period, sweeping away thousands in a few weeks or months, and terminate as suddenly as they begin; on the contrary they apply equally well to numerous other disorders which often belong *to the household;* which are local in their origin, and yet which, for want of the application of preventive measures, are tenfold, and even a hundred fold more destructive to life, than either cholera, or typhus fever, or yellow fever. Among these diseases may be mentioned diarrhœa, dysentery, various types of fever, diseases of the lungs, scrofula in its protean forms, and especially many of the disorders of childhood, such as cholera infantum, convulsions, dropsy and other complaints of the head, with many others unneumerated.

Now, it is ascertained that if we examine the mortality tables of many large cities, such as New York, and exclude the deaths by external injuries, and other unavoidable causes, it is found that a very large proportion of the remainder are due to diseases which are either wholly or partially preventible. It is well known to medical men that even scarlet fever, measles, whooping cough, erysipelas, and other infectious diseases, owe much of their prevalence and fatality to external circumstances, i. e., to impure air and food, to insufficient light, clothing, and warmth; and that if all these can be had perfectly pure, free, and abundant, not only are the chances of recovery from even these diseases much greater, but the chances of being seized with them are greatly diminished.

The subject of *Sanitary Reform* has occupied the attention of some of the governments of Europe, especially of Great Britain and France, for many years, and vast improvements have been effected; but in this country it is comparatively a new subject of interest. Many of our large cities have been suffered to grow up without regard to the arrangements necessary to insure the health of the people, until at last, in the city of New York particularly, the evil has grown to a great magnitude; not only causing an enormous waste of life every year, but threatening most disastrous results in the event of the appearance of any extra cause of sickness, such as cholera, or plague, or yellow fever.

During the autumn of 1858, several physicians and other friends of humanity, whose attention had been particularly drawn to the investigation of this subject, deeming it desirable that their efforts to promote the health and welfare of the people should be definitely and efficiently directed, organized for this purpose the New York Sanitary Association.

The present condition of our city, its alarmingly high death rate, the rapid increase and over-crowding of the population, the increasing prevalence of diseases that indicate widely-acting causes of insalubrity, and, lastly, the absence of a rational Sanitary Code, and the imperfect execution of the existing laws relating to the Public Health, combine to demonstrate the necessity of such an Association.

The following table exhibits in a striking manner the excessive mortality and the high death rate in New York, as compared with London:

The population of New York by last census—(1855)—was.	629,810
" London, " " .	2,362,236
nearly four times as great.	
The mortality of New York in 1857 was	23,196
If the mortality of London bore the same ratio to that of New York, as does its population, it would have been (in 1857)	92,784
But it was only	56,786
A saving of lives over New York rate of	45,998

Were the rate of mortality in the City of New York no greater than the death rate in Philadelphia or Boston, there would be an annual saving of six or seven thousand human lives. But the needless sacrifice of life in our city gives but an inadequate idea of the actual losses caused by preventable sickness and death. It has been reliably estimated that the pecuniary burdens occasioned by preventable disease and needless sacrifice of human lives in the city of New York, amount to more than *thirteen millions of dollars, annually*

Truly has it been said, that "*Preventive Medicine* will effect infinitely more for mankind than all the *Curative* skill which has ever been exerted for the alleviation of disease."

The specific objects of the N. Y. Sanitary Association are, as stated in its Constitution, "the improvement of the sanitary condition of the people; and, so far as connected therewith, the advancement of their economic and moral interests:

"First, By promoting the investigation of facts and principles relating to personal, domiciliary, and public Hygiene;"

"Second, By diffusing information on the laws of health and life, and the best means for their application;"

"Third, By such other influences and agencies as may be deemed expedient."

Such an association should be instituted in every city and village of the country.

The officers of the New York Sanitary Association are:

Frederick E. Mather, President,
John H. Griscom, M.D., 1st Vice-President,
Frederick S. Winston, 2d Vice-President,
Elisha Harris, M.D., Corresponding Secretary,
Harvey T. Cleaveland, Recording Secretary,
Nathaniel Hayden, Treasurer,

MEMBERS OF COUNCIL:

To serve one year.

Peter Cooper,	John Watson, M.D.
Egbert L. Viele,	Alfred C. Post, M.D.
C. C. Savage,	John Torrey, M.D.

To serve two years.

Wilson G. Hunt,	Joseph M. Smith, M.D.
Prosper M. Wetmore,	Edwin R. Peaslee, M.D.
Benj. R. Winthrop,	Stephen Smith, M.D.

and its motto is, "Public Health is Public Wealth."

(*For the American Gas-Light Journal.*)

THE GAS-PRESSURE REGISTER.

In consequence of the great variation in the number of burners in operation in each successive hour of the day and night, corresponding changes become necessary in the supply of gas, to equalize the pressure in the street-mains.

The simplest mode of ascertaining these changes in the consumption of gas, is by consulting a pressure gauge. In its ordinary form, this instrument consists of an inverted glass syphon, partly filled with water, one leg of which is open to the atmosphere and the other connected with a street-main. The pressure is indicated by the difference of level between the liquid in the two legs. The pressure is produced by the weight of the gas-holders at the works. These are supported by the contained gas, and serve to force it through the street-mains to the consumers. It is estimated by the height of a column of w ter that it will sustain, and is usually given in tenths of an inch.

The weight of the holders employed in our city varies; the lightest will support a column of water two inches high, and the heaviest six inches. The pressure upon the square inch, corresponding to these, are, respectively, $\frac{16}{100}$ ounce and $3\frac{43}{100}$ ounces. This pressure is of so small an amount that the ordinary mercury-gauge would not measure it with sufficient nicety; hence the adoption of the water-gauge.

Every consumer that lights up, permits an amount of gas to flow from the street-main, causing a slight diminution of the head in distant mains; and each one that extinguishes his light causes a corresponding increase, causing constant minute changes, which rendered it necessary to devise some means whereby these variations may be seen and permanently recorded, so as to enable those at the works to correct them before they become inconvenient in amount, by increasing or diminishing the supply from the gas-holders. For this purpose the pressure register has been constructed.

This instrument consists of a small gas-holder, usually about two feet high, and one foot in diameter, having secured within it a cylindrical air-tight float, and is nicely guided in a small tank partly filled with water. A tube, passing up through the water alongside of the float in the holder, connects it with the street main. To the top of the holder is fixed a guide-rod carrying a pencil; alongside of this rod and parallel with it is a vertical cylinder, upon which is secured an engraved card, wtih horizontal lines to represent tenths of an inch, and 24 vertical, one for each hour of the day. This card is carried around once in 24 hours by clock-work, and the pencil has traced upon it a waved line, the vertical variations being produced by the rise and fall of the gas-holder carrying the pencil, occasioned by corresponding changes in the pressure in the street-mains. A great advantage possessed by this instrument over the ordinary pressure-guage is in the enlargement of the scale. The pencil can be made to traverse several inches of paper scale by an actual variation of only one inch pressure, and, as a consequence, variations which would escape the eye upon the ordinary water-gauge, become quite evident when thus magnified two or three times. The scale is determined by the proportionate diameters of the holder and float within. Upon the admission of the pressure to the holder, it rises, carrying with it the float, until the loss of buoyancy, by the withdrawal of the float from the water, becomes equal to the pressure of the gas upon the annular area of the holder.

Thus, by diminishing or increasing the diameter of the float, the scale may be lengthened or shortened at pleasure. For example—suppose the gas-holder to be twelve inches in diameter, and the float six inches in diameter. In this case the area of the float would be one-third of the area of the annulus remaining exposed to the pressure of the gas in the street-mains; and consequently the holder would rise three inches for a pressure of one inch of water in the street-main, and require the tenths of an inch upon the scale to be really three-tenths of an inch. From observations of the cards taken from several such instruments, placed in various parts of the city, the pressure upon the several supply mains is adjusted by valves controlling the outlets of the gas-holders, so as to maintain, as nearly as possible, a fixed pressure. It is found that a pressure at the works of two inches in the daytime and from three to four during the evening, gives us an average, at all times, in the heart of the city, of nearly two inches — the increase at night being required to supply the additional consumption caused by many lamps being lighted.

The delicacy of these instruments is such that the very slight variations of pressure produced by high winds, upon the gas-holders, at the works are visibly registered, and the cards have thus become permanent records of this class of meteoric phenomena.

Philadelphia. C. M. C.

ELLIMAN BROTHERS,

COMMISSION MERCHANTS,

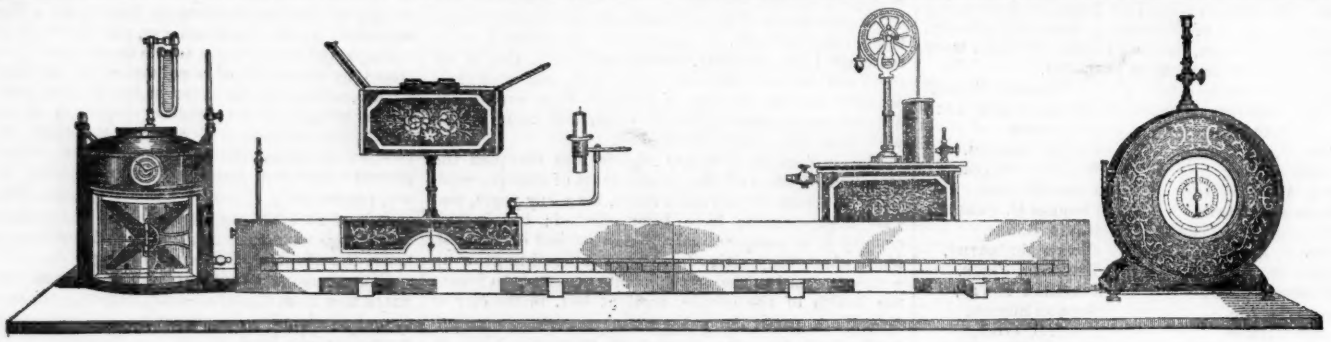
217 PEARL ST., NEW YORK.

IMPORTERS OF BELGIAN FIRE-CLAY GAS RETORTS,

AND

DEALERS IN TILES, ARCH-BRICKS, FURNACE DOORS,
MOUTH-PIECES, COVERS, AND ALL OTHER FITTINGS, OF THE MOST APPROVED PATTERNS, FOR SETTING CLAY RETORTS.

Importers and Dealers in Wrought-Iron, Gas, Water and Steam Tubes.



CODE, HOPPER & GRATZ,

MANUFACTURERS OF

STATION METERS, WET AND DRY CONSUMERS,

Meters, Experimental and Show Meters, Photometers,

PRESSURE REGISTERS, PRESSURE INDICATORS AND GAUGES,

CENTRE SEALS AND GOVERNOR DRUMS, METER PROVERS, &c., &c.

We beg leave to call attention to the IMPROVED PHOTOMETER we now manufacture, which combines the two instruments now universally approved of—Bunson's and Ritchie's. Our arrangement must recommend itself to parties desirous of having a complete apparatus for testing the marketable value of illuminating gas. We furnish, complete, everything appertaining to photometrical experiments. As an indication of the acknowledged superiority of our gas meters, we would state that we have manufactured a larger number of meters than any other establishment in the world, and are now making, at this present time, more meters than at any former period. Our wet meters, where they have been used, are universally admitted to be superior to any other made in this country, and our *Patent Rotary Valve Dry Gas Meter* has given better satisfaction than any other dry meter heretofore offered. The advantages claimed for it are, simplicity of construction, small valve surface, security against leaking diaphragms, self-cleaning valve, drainage from condensation, &c. Every instrument made by us is of superior material and workmanship; and the high reputation which we have enjoyed for so many years, we will take care to maintain, which must recommend our meters and other apparatus to parties desiring the VERY BEST.

The Pressure Register, of which we are the sole manufacturers in this country, is to a gas establishment a most important instrument, and to companies supplying gas to street lamps, it is found invaluable.

All meters are tested (separately) by a sworn Meter Inspector, and will be sealed with his seal when desired. *We guarantee entire satisfaction* to all parties favoring us with their orders.

CODE, HOPPER & GRATZ,
1500, 1502, 1504 FILBERT STREET,
PHILADELPHIA.

FLOYD'S PATENT
MALLEABLE IRON RETORT COVERS.

Patented, July 21st, 1857.

ROBERTS SC

The above cut represents the MALLEABLE IRON RETORT COVER. It is made only a quarter of an inch thick, and convexed as shown in the sectional view which gives it great strength. We make this cover of any required shape—the patent allowing us to adopt any form the taste of those using them may suggest. We have, in the above form, secured lightness and strength combined, and where there is no objection to it, this shape is preferable to any other.

The peculiar advantages of this invention are economy, durability and convenience, all of which are, upon the slightest examination, apparent to all who are familiar with the manufacture of Gas, or any article requiring the use of Retorts. This Cover is made of a very superior kind of malleable iron, being stronger and much better than wrought iron, and consequently of unlimited durability. It is less than half the weight of the cast iron Cover, such as have been in universal use, and its adoption is therefore a saving of labor in the Retort House. We give extracts from a few of the many letters received from those who have this Cover in use, including some of the largest Gas Manufacturing Companies in the United States:

OFFICE MANHATTAN GAS-LIGHT CO.,
No. 4 Irving Place, N. Y.

FLOYD'S PATENT MALLEABLE IRON RETORT COVERS far excel any article for a similar purpose heretofore in use. The durability of this Cover is much greater than those made from ordinary cast iron. Indeed, I can put no limit to the length of time they may be rendered serviceable.

(Signed,) JOS. A. SABBATON,
Eng. M. G. L. Co.

OFFICE NEW YORK GAS-LIGHT CO.,
No. 174 Centre street, N. Y.

From the experiments made with a few of FLOYD'S PATENT MALLEABLE IRON RETORT COVERS at these Works, I believe the entire use of them at the price charged would in the end be a saving to Gas Companies, as they cannot, even by careless usage, be broken.

JNO. MOWTON,
Manager.

BROOKLYN GAS WORKS,
May 14, 1859.

Messrs. HERRING & Co., Gentlemen,—Yours of the 13th is at hand, and contents noted. We have used your patent Retort Lids for about eighteen months, and are well satisfied with their superiority over all other kinds in use.

Yours, truly, J. K. BRICK,
Engineer of the Brooklyn Gas-Light Co.

OFFICE PHILADELPHIA GAS WORKS,
Market and 23d sts., Philadelphia.

After eleven months' trial of FLOYD'S PATENT MALLEABLE IRON RETORT COVERS, I find them to be in every respect satisfactory, and much preferable to cast iron covers of greater weight.

JNO. C. CRESSON,
Eng. Phila. Gas Works.

OFFICE ALBANY GAS-LIGHT CO.,
Albany, N. Y.

The advantages of FLOYD'S PATENT MALLEABLE IRON RETORT COVERS are great. They weigh much less than cast iron covers, and this is a considerable matter to the men who have to lift them as high as their heads, as in the case in the top Retort of five in a bench, and are more economical to any Gas Works, being less liable to breakage, which is a serious item of expense during the year.

(Signed,) PAUL A. SABBATON,
Supt. Albany G. L. Co.

OFFICE DETROIT GAS-LIGHT CO.,
Detroit, Mich.

* * * I am delighted with the working of FLOYD'S PATENT MALLEABLE IRON RETORT COVERS. Since their use we have not had a single "blow" of the luting, and consequently have lost no Gas using these Covers. I shall substitute these Covers as soon as the old ones are broken. I am not sure but it would be more profitable to throw our present cast iron ones away and purchase these. * *

P. E. DE MILL,
Sect'y D. G. L. Co.

Extract from the Report of THOS. H. WYNNE, *Superintendent of the* RICHMOND (VA.) GAS WORKS, *February* 28th, 1859.

"Feeling satisfied from my whole experience, that every facility which is afforded to working men in the performance of their duties, is an advantage to those who employ them, I have discarded the heavy old cast iron retort lids, weighing sixty pounds a-piece, and substituted those of malleable iron, made by S. C. Herring, of the Oregon Foundry, New York. These possess the important advantages of lightness, weighing only thirty pounds, and still greater of durability, it being next to impossible to break them by the hardest usage to which they are subjected. Their first cost is twice as much as the others, but as these are easily broken, there can be no question but that, in the end, the new lids will be the cheaper."

Gas Works requiring these "COVERS" can send a correct drawing of the mouth-piece of their Retort, from which we can make the pattern, which will be charged at just its cost. The cost of the "COVERS" will invariably be *thirteen cents per pound*, delivered at any point in New York for shipment.

Orders for Covers received through Messrs. ELLIMAN BROTHERS, New York.
" " " " Mr. T. W. PARMELE, " "

HERRING, FLOYD & KIBBE, Sole Proprietors and Manufacturers.

740, 742 and 744 Greenwich street, New York.

Castings of every description for Gas Works, by Herring & Floyd, Oregon Iron Foundry, New York.

TO CANADA AND OTHER BRITISH COMPANIES.

We hope our foreign friends will consider themselves included in all invitations addressed to our own companies. We hope to be useful to them also, as several of them were among the first to rally under our banner.

IMPORTANT TO GAS CONSUMERS.

SUPREME COURT — SPECIAL TERM.

Before Hon. Judge Sutherland.

JULY 22—*The People, by the Attorney General, vs. James Bowen and others (the Metropolitan Gas Company).*—This was a motion for a *quo warranto* against the defendants for assuming to act as an incorporated company without authority of law. In the complaint it is alleged that the defendants have incorporated themselves together, and claim to be a corporation, and are unlawfully acting as a corporation, under an alleged act of the Legislature of the State of New York, entitled "An act to incorporate the Metropolitan Gas-Light Company of the city of New York," passed April 17th, 1855, but further alleges, that although said alleged act passed the Assembly on the 5th day of April, 1855, and the Senate on the 15th day of April, 1855, yet it was not approved or signed by the Governor until the 17th day of April, 1855, and that the Legislature adjourned without day on the 14th day of April, 1855, and was not again in session that year. By an averment of the complaint the act in question is made part of the complaint. (Session laws of 1855, p. 1,033.) By sec. 1 of the act, Bowen and others and their securities, are constituted the Metropolitan Gas-Light Company of the city of New York, and empowered to lay their pipes in the streets, &c, for the purpose of conducting gas, &c.; but this can only be done by obtaining permission of the Board of Common Council. The complaint further alleges that on the 12th of September the Board of Councilmen granted such permission, but on the 8th of December the Board of Aldermen non-concurred, and the resolution was lost. That on the 20th of December, 1858, the Board of Councilmen passed a resolution in relation thereto, which was non-concurred in on the 29th of December, 1858. The complaint insists that the defendants and their associates are not a corporation, and have no right to act as such, and that if the act of the Legislature was approved by the Governor so as to become a law, it was unconstitutional and void, because not approved by the Governor until after the adjournment of the Legislature, and for this reason failed to become a law.

The Judge enters elaborately into the law and the questions arising in the case, and concludes his decision by saying that he cannot concur in the view of the question presented on the part of the people. Upon all the questions raised by the demurrer in this case, my conclusion is that the defendant must have judgment on the demurrer, with costs.

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CAPITAL, $150,000.
Geo. Deming, *Agent.*

NORTH AMERICAN, (*Hartford*)
No. 62 Wall street, New York.
CAPITAL, $300,000.
J. A. Alexander, *Agent.*

NORTH AMERICAN, (*Boston*)
No. 46 Pine street, New York.
CAPITAL, $200,000.
A. Bigelow, Jr., *Agent.*

NEW ENGLAND, (*Hartford*)
No. 61 Wall street, New York.
CAPITAL, $200,000.
E. White, *Agent.*

PACIFIC,
No. 112 Grand st. and Wall st., New York.
CAPITAL $150,000.— ASSETS $233,990.
T. F. Jeremiah, *Sec'y.* Amos T. Hatfield, *Pres't.*

PARK,
No. 287 Broadway and 50 Wall st., New York.
CAPITAL $200,000. ASSETS $224,352.
Wm. Jaffray, *Sec'y.* J. W. Baker, *Pres't.*

PEOPLE'S,
No. 393 Canal and 66 Wall street, New York.
CAPITAL $150,000.—ASSETS $152,587.
Wm. Underhill, *Sec'y.* Matthias Clark, *Pres't.*

PETER COOPER,
Third avenue, cor. Ninth, & 61 Wall st, N. Y.
CAPITAL $150,000.—ASSETS $175,000.
Wm. H. Riblet, *Sec'y.* Nathan C. Ely, *Pres't.*

PHENIX,
No. 62 Wall street, New York.
CAPITAL $200,000.—ASSETS $280,000.
Philander Shaw, *Sec'y.* Steph. Crowell, *Pres't.*

RELIEF,
No. 8 Wall street, New York.
CAPITAL $150,000.—ASSETS $258,850.
J. H. Pinkney, *Secy.* A. S. Depeyster, *Pres't.*

REPUBLIC,
No. 16 Wall street, New York.
CAPITAL $150,000.—ASSETS $270,000.
Duncan F. Curry, *Sec'y.* Robt. S. Hone, *Pres't.*

RESOLUTE,
No. 19 Nassau street, New York.
CAPITAL $200,000.—ASSETS $254,000.
Wm. M. Randell, *Sec'y.* C. F. Uhlhorn, *Pres't.*

RUTGERS.
No. 176 Chatham, & 11 Merch. Ex., New York.
CAPITAL $200,000.—ASSETS $268,000.
E. B. Fellows, *Sec'y.* Isaac O. Barker, *Pres't.*

SAINT MARK'S,
No. 67 Wall street, New York.
CAPITAL $150,000.—ASSETS $187,000.
Wash'ton. Post, *Sec'y.* John M. Ferrier, *Pres't.*

SAINT NICHOLAS,
No. 10 Merch. Ex., & 81 Eighth Av., New York.
CAPITAL $150,000.—ASSETS $181,000.
Wm. S. Slocum, *Sec'y.* Wm. Winslow, *Pres't.*

SECURITY,
No. 31 Pine street, New York.
CAPITAL $200,000.—ASSETS $266,000.
Thos. W. Birdsall, *Sec'y.* Jos. Walker, *Pres't.*

STANDARD.
No. 50 Wall street, New York.
CAPITAL $200,000.
Bradford Knapp, *Sec'y.* Wm. Cripps, *Pres't.*

STUYVESANT.
No. 151 Bowery, & 4 Broad street, New York.
CAPITAL $200,000.—ASSETS $243,000.
Benj. J. Pentz, *Sec'y.* Fred'k R Lee, *Pres't.*

UNITED STATES,
No. 69 Wall street, New York.
CAPITAL $250,000.—ASSETS $318,000.
Jas. Wilkie, *Sec'y.* Ab'm S. Underhill, *Pres't.*

WASHINGTON,
No. 54 Wall street, New York.
CAPITAL $200,000.—ASSETS $292,000.
Henry Weston, *Sec'y.* Geo. C. Satterlee, *Pres't.*

WILLIAMSBURG CITY,
No. 67 Wall street, New York.
CAPITAL $150,000.—ASSETS $226,567.
H. Giroux. *Sec'y.* Richard Teneyck, *Pres't.*

SAMUEL DOWN,

Nos. 340, 342, 344 AND 346 WEST TWENTY-SECOND STREET,

NORTH RIVER, NEW YORK.

MANUFACTURER OF

WET AND DRY PATENT GAS METERS,

Pressure Registers, Pressure Indicators and Gauges, Station, Show, Customer and Experimenting Meters, and the Celebrated Testing Gas Holders* now used in the State of New York, in compliance with an Act of the Legislature.

ALSO,

THE PHOTOMETRICAL APPARATUS.

New York, June 25, 1859.

Mr. Down embraces this opportunity of returning his thanks to the Gas-Light Companies, Gas Engineers, and consumers generally, of the United States, the British Provinces, South America and Cuba, for the very liberal patronage he has received from them the past year, which has *greatly exceeded his most sanguine calculations;* the demand for his Improved Patent Dry Gas Meters having been, by *many thousands*, greater than any previous year. Mr. Down being a *practical mechanic*, and having given his *entire attention*, for over eighteen years, to the manufacture and improvement of Gas Meters, claims, without fear of contradiction, a superiority for the Gas Meters manufactured by him over all others in the country, for the proof of which he would simply revert to the fact that he has always manufactured for the *Manhattan and New York Gas-Light Companies all the meters used by them;* and at present is also manufacturing meters for the most extensive companies in the Union, the British Provinces, South America and Cuba. *All meters manufactured by him are tested and sealed by the Gas Meter Inspector of the State, appointed by the Governor under the act of the last Legislature.* His present factory was erected in 1847, and he believes it is the most complete and extensive at present in the world, and his machinery for gas meter making far in advance, in all the new improvements, of any other manufacturer's in the country. He therefore deems it highly necessary to place Gas-Light Companies throughout the Union, British Provinces, South America and Cuba *on their guard* against all parties who are so industriously endeavoring to introduce to their notice Patent Dry Gas Meters, *constructed precisely in imitation of his;* but with *Chinese-like characteristics*, without fully understanding the correct principles upon which they are made. Mr. Down respectfully invites purchasers to visit for inspection, at any time, his works and the materials used by him in his manufacture of Gas Meters, feeling assured that the result of such inspection will be the *undoubted conviction* of the correctness of his statement.

In conclusion, he would state that he is now prepared to manufacture the Photometrical Apparatus according to the correct English standard, and will furnish, gratuitously, the directions for arranging the Photometer Room and the rules for the proper working of the apparatus.

Mr. Down is fully prepared at all times to execute, upon the shortest notice, all orders for Gas Meters, wet and dry, and the Photometer Apparatus, with the guarantee of entire satisfaction.

Illustrative Electrotypes will appear in the third number of the American Gas-Light Journal.

* The standard of measurement of this Gas-holder is given by Professors Torrey, of the Assay Office; Joy, of Columbia College; Gibbs, of the Free Academy, with several other distinguished scientific gentlemen.